DOCUMENT RESUME

ED 158 092 08 CE 017 570

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TITLE Multiple Learning Strategies Project. Medical Assistant. [Regular Vocational. Vol. 2.]
INSTITUTION Ingham Intermediate School District, Mason, Mich. Capital Area Career Center.
SPONS AGENCY Bureau of Occupational and Adult Education (DHEW/OE), Washington, D.C.
BUREAU NO 498AH60038
PUB DATE Dec 77
GRANT G007603808
NOTE 381p.; For related documents see CE 017 554-583

EDRS PRICE MF-$0.83 HC-$20.75 Plus Postage.
DESCRIPTORS Diagnostic Tests; Equipment Maintenance; *Health Occupations Education; *Learning Activities; Learning Modules; *Medical Assistants; Medical Evaluation; Supplies; *Vocational Education; Young Adults

ABSTRACT

This instructional package, one of four designed for regular vocational students, focuses on the vocational area of medical assistant. Contained in this document are forty-six learning modules organized into three units: examination; supplies and equipment maintenance; and diagnostic tests. Each module includes these elements: a performance objective page telling what will be learned, what materials will be needed, and how the student will be evaluated; information pages (not always included) which provide information needed to perform the activity; and job step pages which detail steps (visuals included) necessary to do the tasks. (This document and related documents CE 017 569, CE 017 571, and CE 017 572 are one of two sets of learning modules on medical assistants written in formats designed for regular vocational and visually impaired students. The modules are part of a total set which includes over 1,300 modules written in a variety of formats on building maintenance, dietetic assistant, small engine repair, medical assistant, and graphics.) (JH)

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CAPITAL AREA CAREER CENTER
Ingham Intermediate School District
611 Hagadorn Road
Mason, Michigan 48854

TO:

MULTIPLE LEARNING STRATEGIES PROJECT

MEDICAL ASSISTANT

[Regular Vocational-VOL. 2]

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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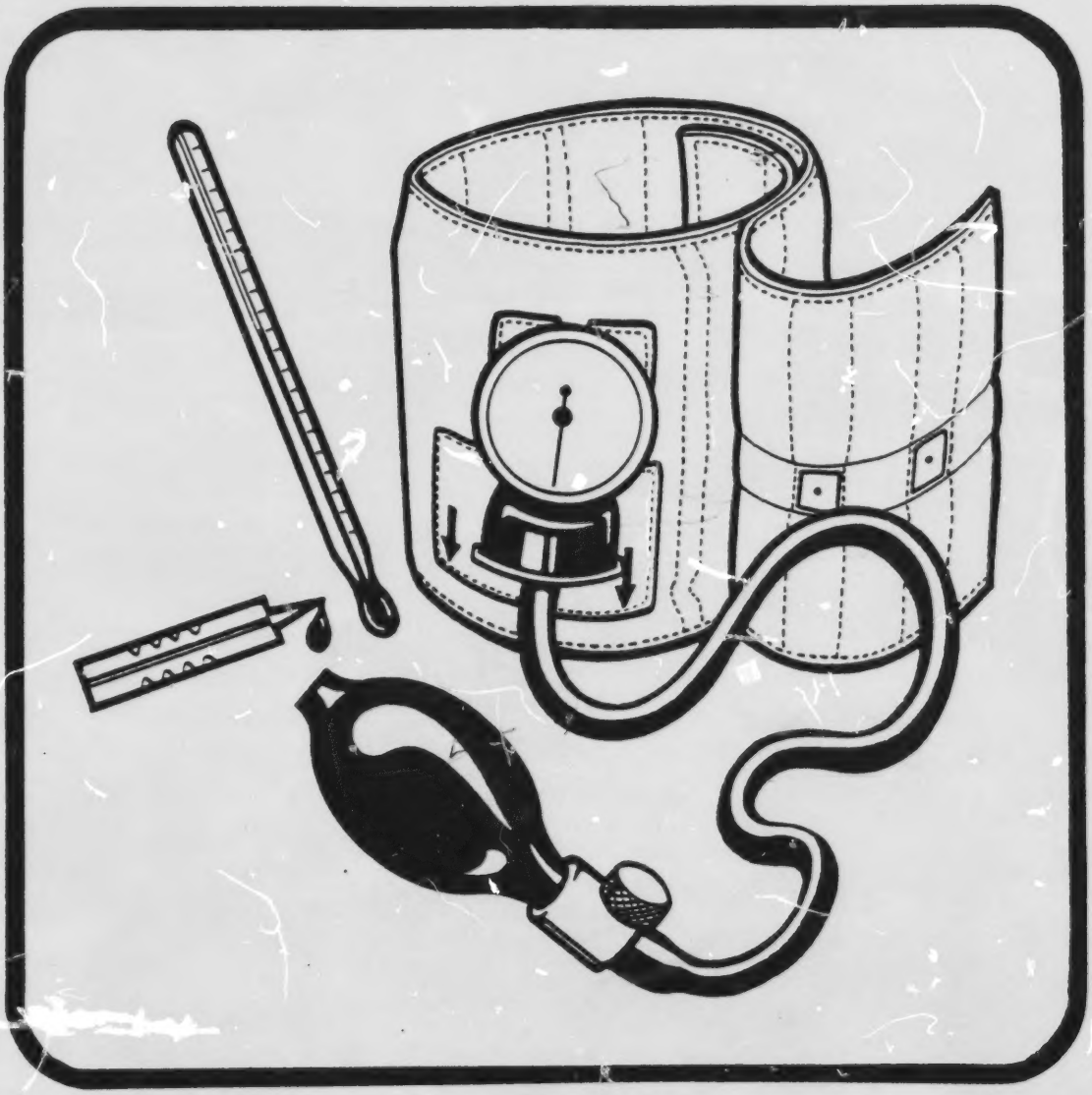
CE 017 570



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 001 date: December 1977 level: I

skill title: How to Set the Room Up for a Complete Physical

developed & written by: Beverly Varney

visuals by: Mary Ann Gamel

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to set the room up for a complete physical.

IN ORDER TO DO THIS YOU WILL NEED:

1. Examining room
2. Examining table with stirrups
3. Paper cover for examining table
4. Pillow
5. Large paper exam sheet
6. Small paper exam towel
7. Examination gown
8. Stool for the doctor
9. Gooseneck lamp
10. Wastepaper basket
11. Stainless steel tray for soiled equipment
12. Cart for the equipment
13. Nasal speculum
14. Stethoscope
15. Cotton tipped applicators
16. Otoscope
17. Ophthalmoscope
18. Sphygmomanometer
19. Head mirror
20. Tuning fork
21. Flashlight
22. Tongue depressors
23. Rubber gloves
24. Lubricant
25. Assorted sizes of vaginal speculums
26. Measuring tape
27. Thermometer
28. Reflex hammer
29. Paper
30. Pencil
31. Watch with sweep second hand
32. Safety pin
33. Cotton balls
34. Gauze squares
35. Tranfer forceps

WE WILL KNOW YOU CAN DO IT WHEN:

1. It is not necessary to go out of the room during the examination for any equipment.

2. You know the instruments the doctor will need for each part of the exam.

3. You identify the four methods used for examination.

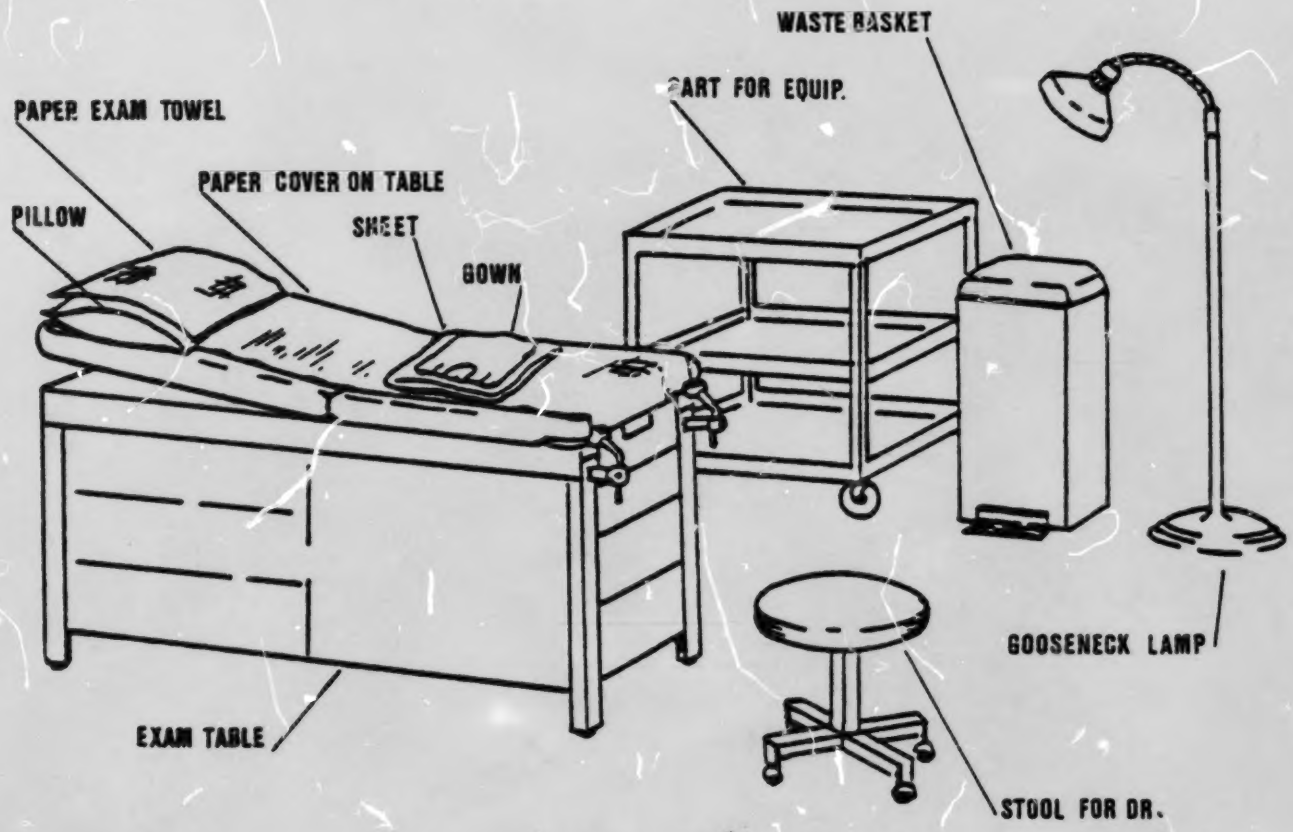
INFORMATION

Before you go any further, get a copy of A Guide To Physical Examination by Barbara Bates, M.D. Read pages 1, 2 and 3. Make a list of any terms you do not know. Save this list for later.

The three pages you just read were written for doctors. Keep the book handy because we are going to cover how the Medical Assistant fits into the routine for a physical exam.

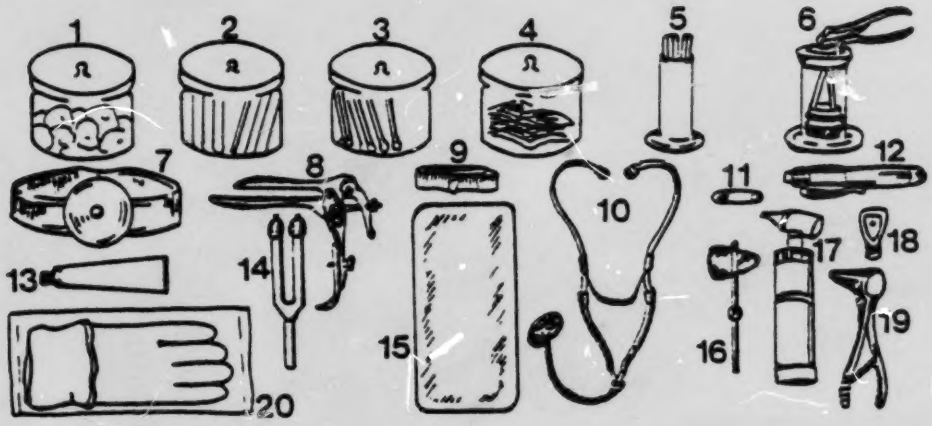
Basically the Medical Assistant will prepare the room, prepare the patient, assist the doctor and clean up after the exam. In this mod we will talk about how to prepare the room, and how to assist the doctor.

Preparing the room is the first part of your duty. Study the diagram below. It is an example of how the room should be arranged. Each doctor has their own way of doing certain things.



INFORMATION

The next illustration will show you one way you can place the instruments on the cart.



1) Jar of Cotton Balls
2) Jar of Tongue Depressors
3) Jar of Cotton-Tipped Applicators
4) Jar of Gauze Squares
5) Thermometers
6) Transfer Forceps
7) Head Mirror
8) Vaginal Speculum
9) Tape Measure
10) Stethoscope
11) Safety Pin
12) Flashlight
13) Lubricant
14) Tuning Fork
15) Sphygnomanometer
16) Reflex Hammer
17) Otoscope
18) Opthalmoscope
19) Nasal Speculum
20) Gloves

The second shelf of the cart should hold the stainless steel tray to use for soiled instruments.

Your approach to the patient is important. The patient always feels some anxiety about the illness, the examination, or both. You should be patient, courteous and understanding toward the patient. Be sure to explain all procedures so the patient can understand what's going to happen next.

WORD GUIDE

P - Abbreviation for pulse

R - Abbreviation for respiration

BP - Abbreviation for blood pressure

T - Abbreviation for temperature

JOB STEPS

1. Set up the examination room as pictured in Information pages.

2. Set the cart up as pictured in the Information pages.

3. As you read the following, practice handing the instruments to a classmate. Most doctors will use them in the order listed below. Your patient will be seated on the table.

   A. The general survey involves inspection only, no instruments are needed. The patient should be seated on the table.

   B. Vital signs. This means P, R, BP and sometimes T. If your doctor usually wants a T, you should do it before he comes into the room. You will use the thermometer, either you or the doctor will use the sphygmomanometer and the stethoscope.

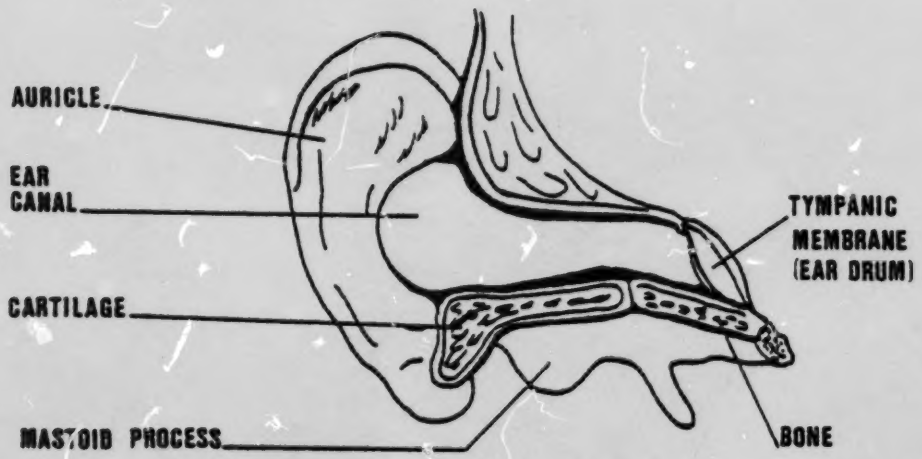
   C. The skin is inspected. No instruments are needed.

   D. The head is examined by inspection. No instruments are needed.

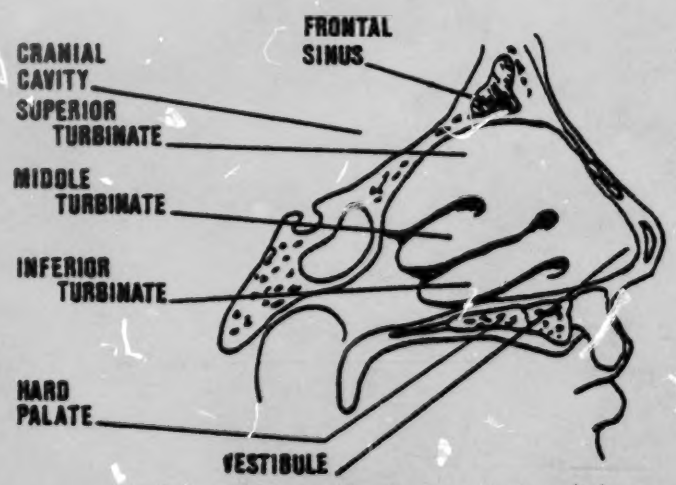
   E. The eyes are examined by inspection. An ophthalmoscope is needed.

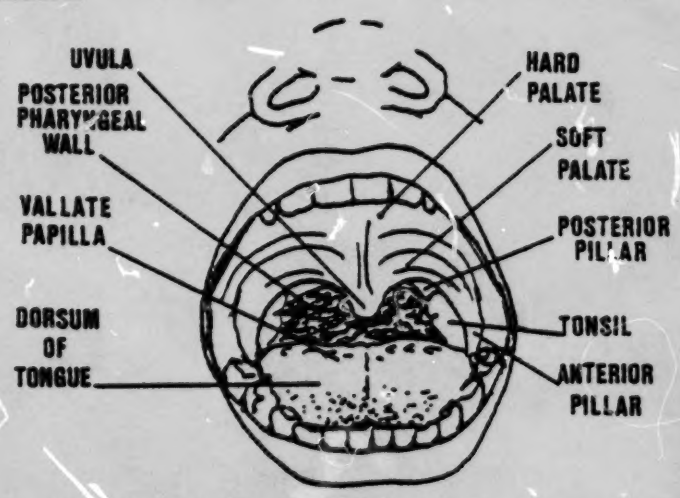
JOB STEPS

F. The ears are examined by inspection. The doctor will need the otoscope, ear speculum and tuning fork.



G. The nose and throat are examined by inspection. For the nose, the doctor will use the otoscope or a flashlight and nasal speculum. He will use the flashlight and a tongue depressor to examine the mouth, teeth, tongue and gums; also the pharynx and tonsillar area.

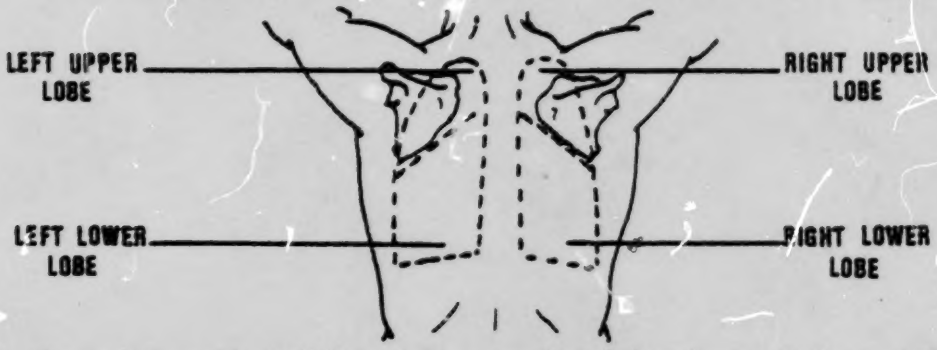




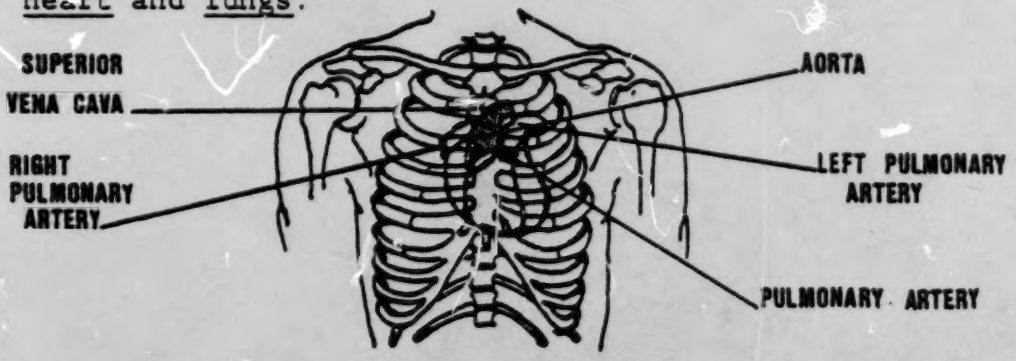
H. The neck is examined by palpation and inspection. No instruments are needed.

JOB STEPS

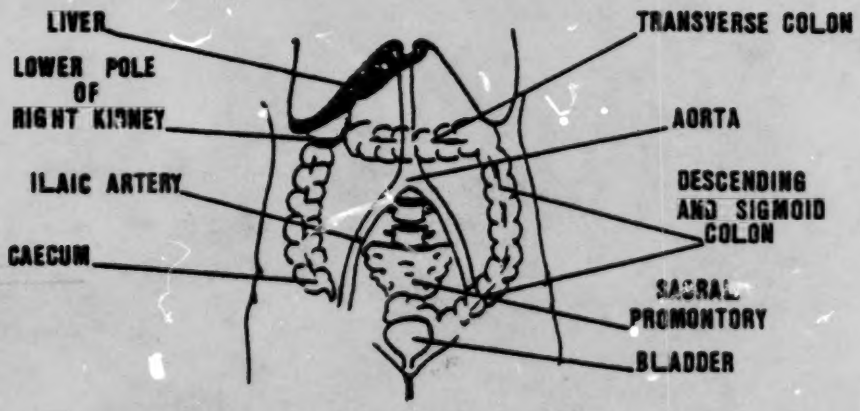
I. The back includes the exam for deformities of the spine and also auscultation of the lungs. The doctor will inspect, palpate, percuss, and listen. He will need a stethoscope.



J. Breasts and axillae are examined by inspection and palpation. The doctor also will examine the frontal chest at this time by inspection, palpation, percussion and auscultation. He will need a stethoscope. The frontal chest includes the heart and lungs.



K. If the doctor did not have the patient lie down for the frontal chest, you should assist them in doing so at this time so the doctor can examine the abdomen. He will do this by inspection, percussion and palpation. He/she may also auscultate, but already has the stethoscope so needs no more instruments. Just hand them to the doctor as needed.



JOB STEPS

L. Most doctors will examine the extremities (arms and legs) at this time and will want the percussion hammer to test reflexes. ROM (range of motion or the ability to move the arms and legs) will also be done at this time. A safety pin is sometimes used to check sensation or feeling.

M. If an exam of the genital and rectal area is to be done, the doctor will do it at this time. There are separate modules for these exams and you do not need to do them now.

4. When you have practised with a classmate, ask your instructor to go through the routine with you.

5. Study these words and be able to tell your instructor the meanings of them.

Step 3 A - Inspection - looking.

General Survey - to look at the patients while talking to them and see if they seem calm, nervous, happy, sad, tense, relaxed, etc.

Step 3 B - Thermometer - a device used to measure body heat.

Sphygmomanometer - an instrument used to measure blood pressure.

Stethoscope - an instrument used for auscultation or listening.

Step 3 E - Ophthalmoscope - an instrument used to look inside the eye.

Step 3 F - Otoscope - an instrument to look into the ear.

Ear Speculum - the part of the otoscope which is inserted into the ear. (We use white plastic disposable ones in the lab.)

Tuning Fork - An instrument which vibrates, giving off a musical tone.

JOB STEPS

Step 3 G - Nasal Speculum - an instrument used to hold the opening of the nostril open to look inside.

Tongue Depressor - (tongue blade) a wooden paddle used to hold the tongue down while looking into the throat.

Pharynx - the back of the throat.

Step 3 H - Palpation - feeling, touching.

Step 3 I - Deformities - any abnormal curves, bones

Auscultation - listening.

Lungs - the two organs which take in and let out air.

Percuss - (or percussion) tapping to hear the sound made.

Step 3 J - Axillae - the two armpits.

Frontal - front of the body.

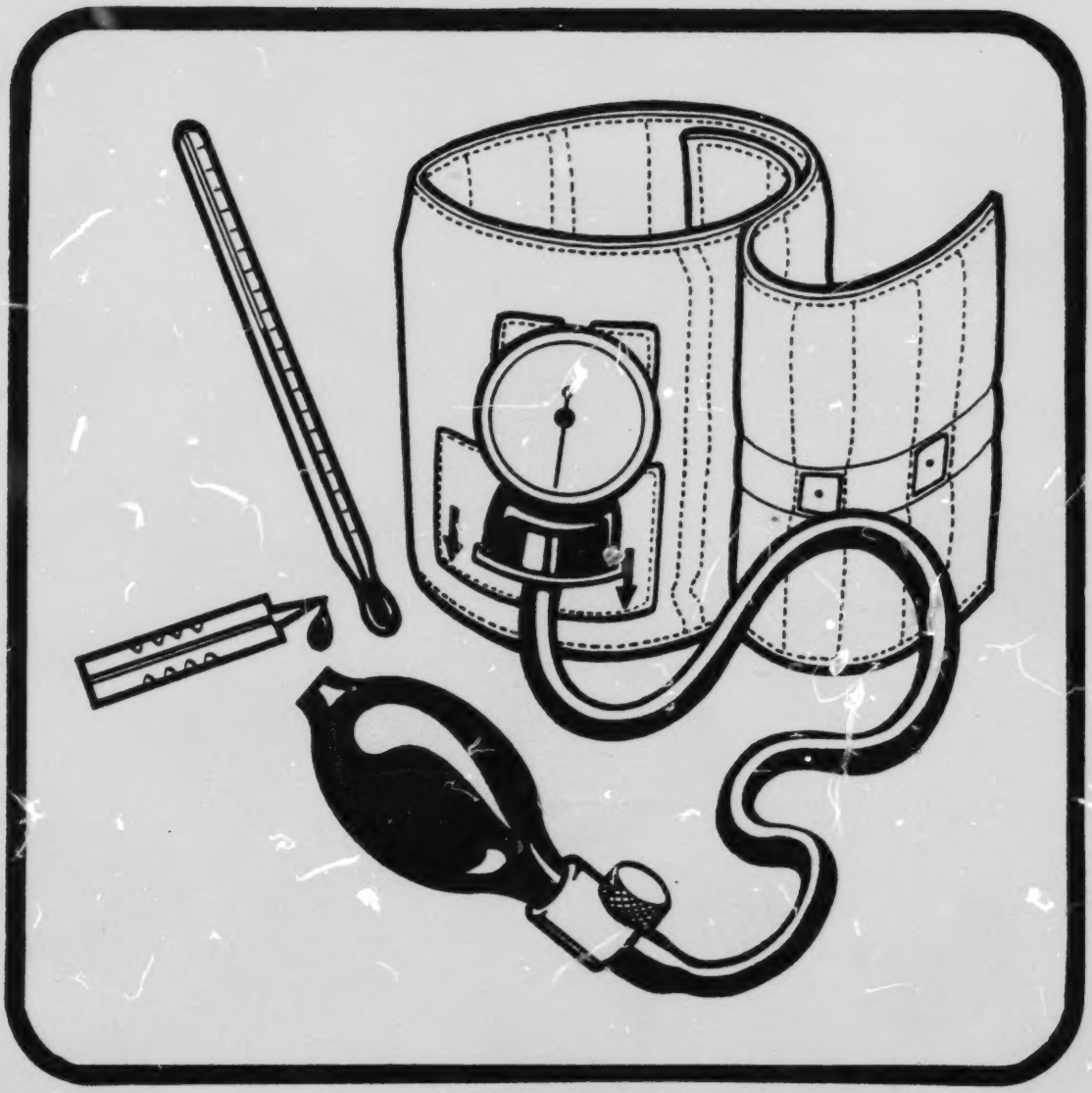
Step 3 K - Abdomen - the part of the body from the waist to the legs.

Step 3 L - Percussion Hammer - a rubber hammer used to test nerve reactions.

The four methods of examination are:

1. Inspection - looking
2. Palpation - feeling
3. Percussion - tapping
4. Auscultation - listening

When you have demonstrated that you can have the room set up and pass the instruments and know the words, you have passed the module. If you want to, you can do mods 5-1, 5-2, 5-15 and 5-16 as a group.



medical assistant

unit: The Examination

capital area career center

module: 4401 05 002 date: December 1977 level: I

skill title: How To Get The Patient Ready For Examinations

developed & written by: Beverly Varney

visuals by: Laura Eibach

WORD GUIDE

DRAPE - Cover with a sheet or towel.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to get the patient ready for an examination.

AND IN ORDER TO DO THIS YOU WILL NEED:

1. A classmate to act as a patient who is having an examination.
2. An examining table.
3. An examination gown.
4. A paper drape sheet.

WE WILL KNOW YOU CAN DO IT WHEN:

1. The patient understands what clothing they are to remove.
2. You demonstrate the positions listed in the module and show how to place a patient in each position.
3. You demonstrate how to drape the patient for each position.

INFORMATION

It is the Medical Assistant's job to get patients ready for exams. You will need to know what kind of exam is to be done, what position the patient should be in, how much clothing they need to be in, how much clothing they need to remove, how to protect the patient from embarassment by using drapes or covers.

Some patients have never had an exam, so it is wrong to take the patient to the exam room and hand them a sheet and say "You can get ready now". The patient might play ostrich and cover their head!

Before you begin to have the patient undress, be sure to check to see if the doctor wants a urine specimen. If one is needed, have the patient go to the bathroom before undressing.

For a complete exam the patient removes all clothing and puts on an examination gown. Generally the gown ties in the front if a woman is to have a breast exam and in the back for all other exams.

Read page 62 in The Medical Assistant by Bredow and Cooper. This gives you necessary information; do not skip over it.

Check your appointment book to see what the exam is for and drape the patient for that exam. To drape means to cover with a sheet or a paper sheet or towel. Look at the pictures on page 64 of The Medical Assistant. They show some different positions and the patient covered with a drape.

WORD GUIDE

DORSAL CHECK - The back from shoulders to the waist.

SUPINE - Flat on back.

AXILLAE - Armpits.

INFORMATION

The following chart will help you to tell what to do for different exams. Refer to the pictures on page 64 of The Medical Assistant.

Part to be Examined	Clothing to remove	Drape or Cover	Position
Head & Neck	Hat, Scarf, Necktie	None	Seated
Chest, Breasts	All clothing to the waist	Cape, gown or towel over breasts	Seated
Dorsal Chest	All clothing to the waist except bra	Same as chest, breasts	Seated
Abdomen	Any tight clothing below the waist & underwear	Sheet from waist down	Supine
Arms & legs	Depends on the reason - arms and legs should be uncovered & probably all underwear	Sheet the full length from axillae to ankle	Seated then supine or standing
Buttocks	All from waist down	Sheet from the waist down	Sims
Genital (male)	Clothing from waist down	Sheet from the waist down	Seated, then supine, then standing
Pelvic (female)	Clothing from waist down	Sheet placed cornerwise with one point at waist, one between legs	Lithotomy
Rectal (also Prostate)	Clothing from waist down	Sheet from waist down	Sims, Jack-knife or knee-chest

INFORMATION

Some extra points to remember:

Some one piece suits or dresses do not allow the patient to undress from the waist up or the waist down. Be sure to supply an adequate drape for the patient. Try to picture yourself in the patient's position and judge what you would want to have covered.

Here is an example of what to say to a patient.

Medical Assistant: "Good morning Mr. Levine. The doctor is going to do a complete exam today. Before you get ready we need a urine specimen. Please take this container and these towelettes to the bathroom. The directions for collecting the specimen are printed on a card on the wall in the bathroom. When you are done I'll show you which exam room to use".

(Patient returns to M.A.)

Mr. Levine: "I left the specimen on the shelf, like the instructions said".

INFORMATION

Medical Assistant: "Good, come on in to exam room 4". (Ushers patient into room and closes the door.) "Since the doctor is going to do a complete exam it will be necessary for you to remove all of your clothing. You can lay your clothes on this chair (points). Put this gown on with the ties in the back, and spread the sheet over your lap as you sit on the table. The doctor will be ready in about 5 minutes".

Compare the previous example with the following:

Medical Assistant: "Hi Mr. Levine, Doctor needs a specimen, so take this down the hall and when you're done go into room 4 and take off your clothes".

Notice that in the first example the Medical Assistant:

1. Confirmed what the patient is there for.
2. Explained where directions for the urine specimen are located.
3. Told the patient how much clothing to remove.
4. Told the patient how to use the gown and the drape.
5. Told the patient where to put his clothing.
6. Assured the patient he would have adequate time to undress but not too long to wait for the doctor.

Read chapter 7 of Your Roles As A Medical Assistant.

Now it's time for practice. Turn to the Job Steps and begin.

JOB STEPS

1. Ask a classmate to act as your patient for a complete exam (they do not need to really remove their clothing).

2. Place a patient gown and paper drape sheet on the exam table.

3. Instruct your "patient" to go to the bathroom as illustrated in the information pages.

4. Instruct the patient to remove the clothing necessary for a complete exam and where to put their clothes.

5. Instruct the patient how to cover themself.

6. Leave the room.

7. Wait five minutes and return to the room.

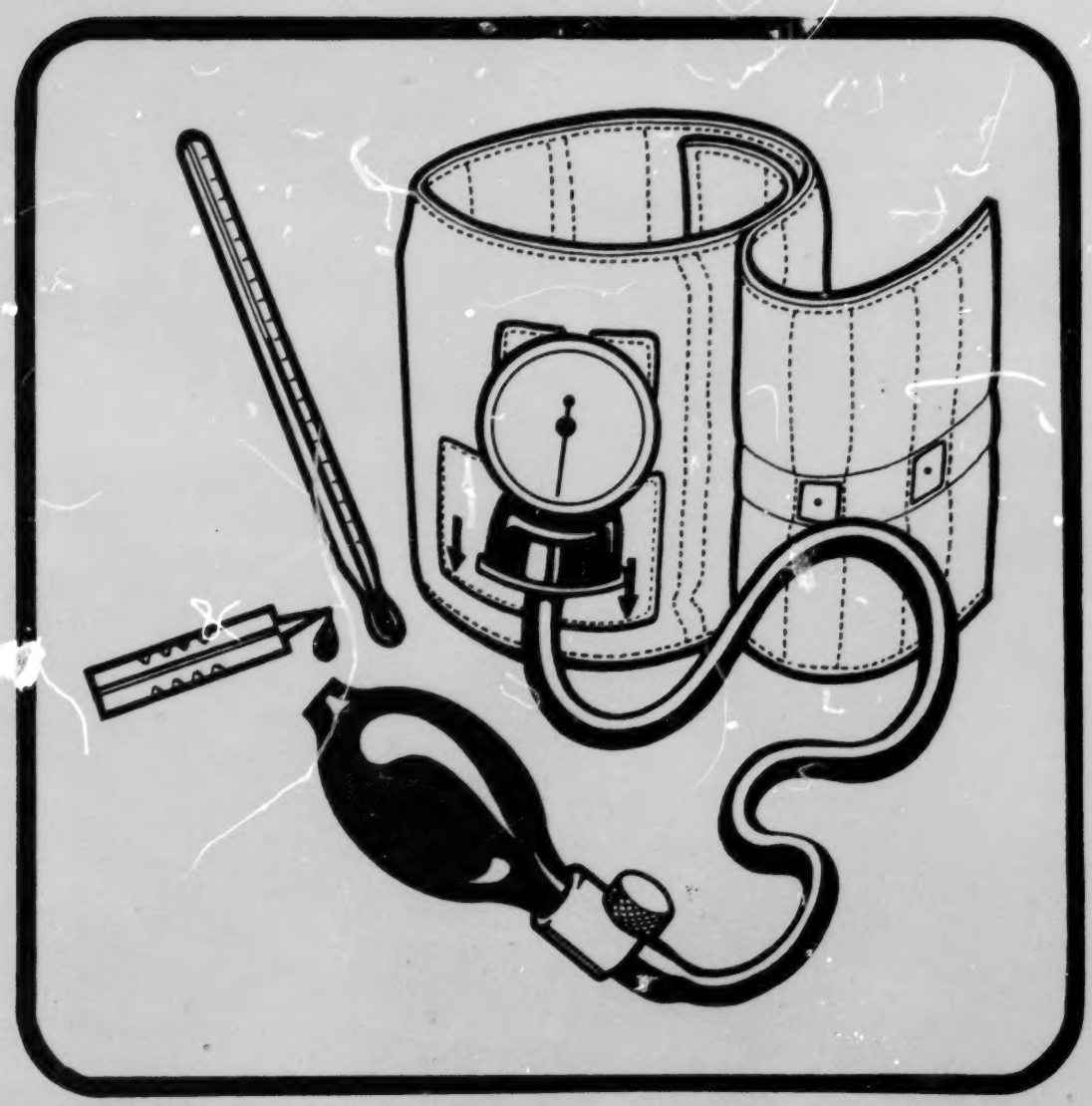
8. Position the patient.

9. Adjust the drapes as needed to cover the patient. If your classmate has not removed clothing, try to keep in mind how you would keep the patient covered if the clothing were removed.

10. Tell the "doctor" (instructor or other classmate) the patient is ready.

11. Return to the room and assist the doctor <u>unless</u> 1 - you are female and it is a male rectal or prostate exam or 2 - you are male and it is a female pelvic, in case of 2, ask a female M.A. to assist.

12. Repeat steps 1 through 11 for each of the exams listed in the information page chart.



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 004 date: February 1977 level: II

skill title: How to do Infant Measurements

developed & written by: Sue Allen

visuals by: Mary Ann Gamel

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to measure the length of the infant, the distance around its head, and the distance around its chest.

IN ORDER TO DO THIS YOU WILL NEED:

A doll to be measured	Pen or pencil
An examining table	Paper cover for table
A measuring tape	Waste basket
A medical record	

WE WILL KNOW YOU CAN DO IT WHEN:

All measurements you have made are within 1/4" accuracy.

INFORMATION

You need this information because:

There are two ways to measure an infant in this mod. The important thing is to do it the same way each time you measure the infant.

For additional information regarding normal heights and weights, look at the chart below.

HEIGHT AND WEIGHT TABLE

Person	Age	Height (in.) Without shoes	Weight (lb.)		
	Months:				
Infants	2-6	24	13		
	7-12	28	20		
	Years:				
Children	1	34	27		
	4-6	43	40		
	7-9	51	60		
	10-12	57	79		
Boys	13-15	64	108		
	16-19	69	139		
Girls	13-15	63	108		
	16-19	64	120		
			Frame		
			Small	Medium	Large
Women	25 and over	62	108-118	113-126	121-138
		64	114-123	120-135	129-148
		66	122-131	128-143	137-154
Men	25 and over	66	128-137	134-147	142-161
		69	140-150	146-160	153-174
		72	152-163	158-175	165-189

WORD GUIDE

SUPINE - Laying on back with face upward.

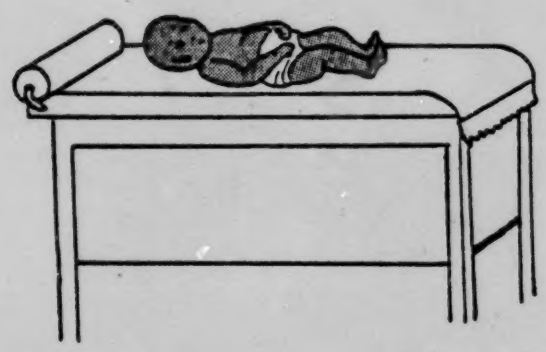
JOB STEPS

1. Wash hands.

2. Be sure a cover is on the table.

3. Have the mother remove the baby's clothes.

4. Lay the baby on it's back (in a supine position).



5. Ask the mother to stand beside the baby to prevent it from falling.

JOB STEPS

6. Two ways of measurement for length of infant:

   a. Place the palm of your left hand on the baby's head. With your thumb and the index finger, grasp the end of the measuring tape. Hold the tape even with the top of the head. Holding the baby still, with your right hand pull the measuring tape to the baby's groin, take your left hand and hold the tape in place at the groin. Take your right hand and pull the measuring tape to the baby's knees, take your left hand and hold the tape in place at the knees, then with your right hand take the tape to the bottom of the foot.

OR . . . .

   b. Make a pencil mark in the paper at the top of the infant's head. Holding legs straight, make a mark at the bottom of the infant's foot. Have the mother pick the infant up. Measure the distance between the marks. This is a more accurate method.

WORD GUIDE

OCCIPITAL - The bone at the back side of the skull.

FRONTAL - The bone of the forehead area of the skull.

JOB STEPS

7. Read the measurement.

8. To measure around the child's head, place the child on its back.

   Use the tape measure to measure the distance around the infant's head from the center of the frontal area around the occipital area and back to the frontal.

WORD GUIDE

THORAX - Chest and back, from the underarms to the waist.

EXPIRATION - To exhale; to breathe out.

INSPIRATION - To inhale; to breathe in.

JOB STEPS

9. You measure around the child's chest this way:

   a. Place the child on its back (supine position).

   b. Measure the distance around the chest (thorax), by passing the tape around the chest at the level of the nipples. You should read the measure halfway between inspiration and expiration.

WORD GUIDE

MEDICAL RECORD - A record of all this certain patient's illnesses, treatments, injections, allergies, etc.

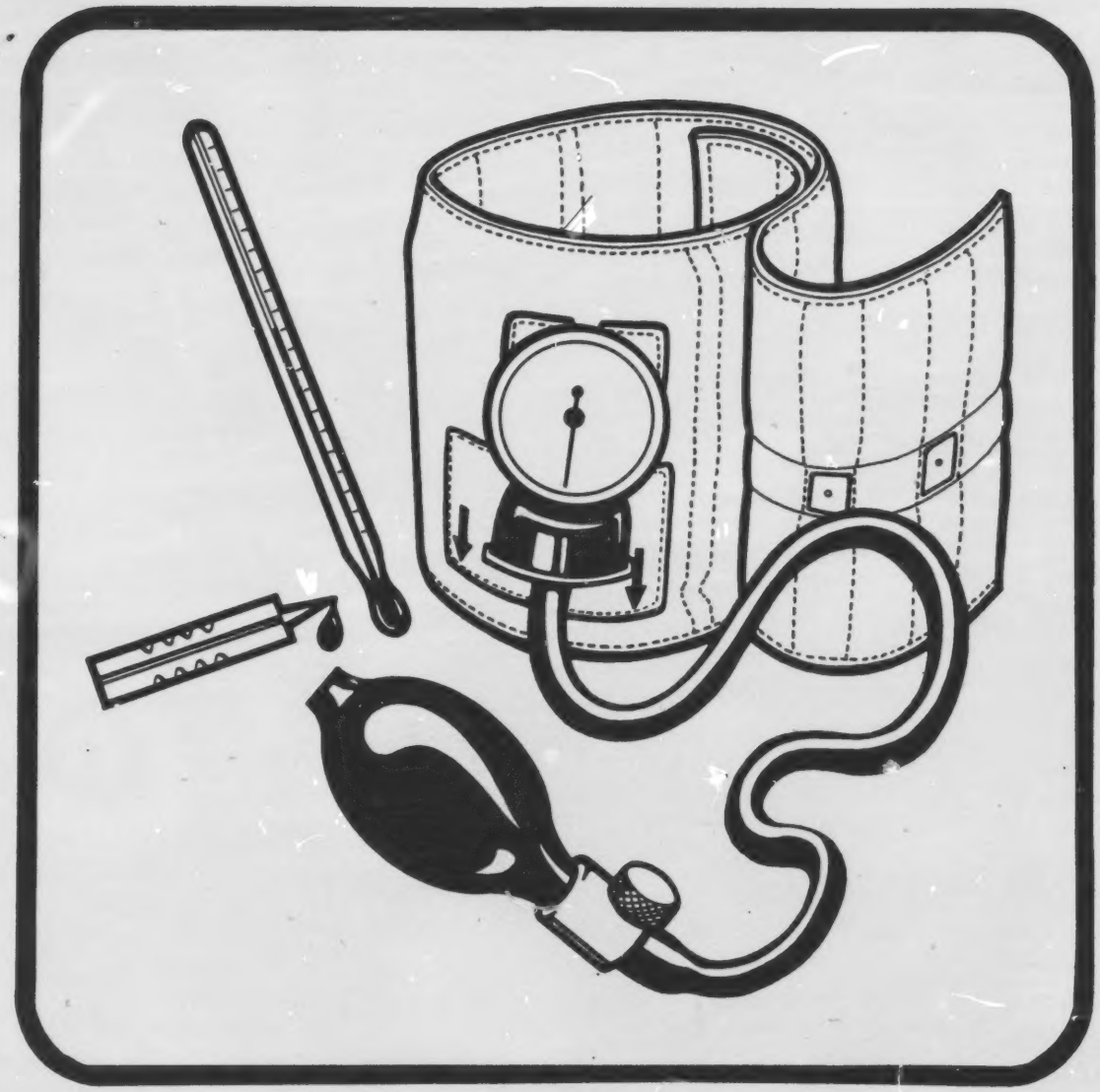
JOB STEPS

10. Record all measurements on the patient's medical record.

QUESTIONS: Be prepared to discuss the questions with your instructor.

1. In measuring length, what is the most important thing involved, regardless of the method you use?

2. These measurements are important to the doctor because_____.



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 005 date: February 1977 level: II

skill title: The Weighing of an Infant

developed & written by: Sue Allen

visuals by: Mary Ann Gamel

PERFORMANCE OBJECTIVE

You Are Going To Learn:

How to weigh the infant.

And In Order To Do This You Will Need:

Doll to be weighed.

Baby scales

Medical record

Pen

Paper cover for scale

Waste paper basket

We Will Know You Can Do It When:

1. The scale is balanced before weighing the baby.
2. The parent stays by the scale so that the baby doesn't fall off from the scale.
3. The weight is read to within 1/4 ounce of accuracy.

INFORMATION

Before you begin the job steps, read:

A Guide to Physical Examination, Page 328 "Weight"

Infants should be put right on the infant scale to be weighed, rather than having someone hold the baby. All of the clothing should be removed except for under pants in children beyond infancy, and dressing gowns, for girls in late childhood.

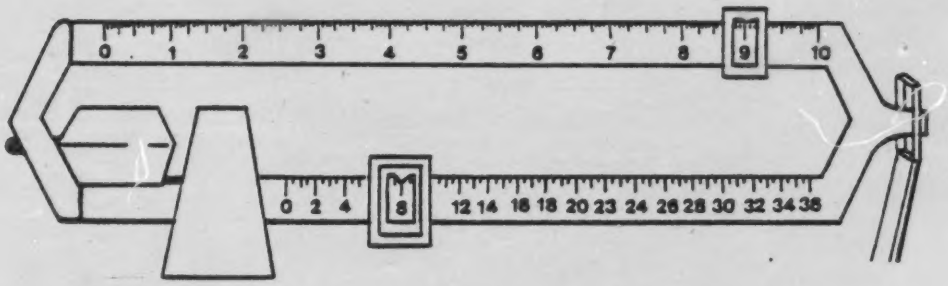
Balance rather than spring scales should be used, and whenever possible the child should be weighed on the same scale each visit.

If you have a baby that is squirming so the pound indicator jumps up and down, you may have to calm the baby. If you can get the baby's attention it may stop wiggling. Most important measure fast, before the baby gets restless and starts squirming.

NOTE:

1. There are sixteen ounces in one pound.

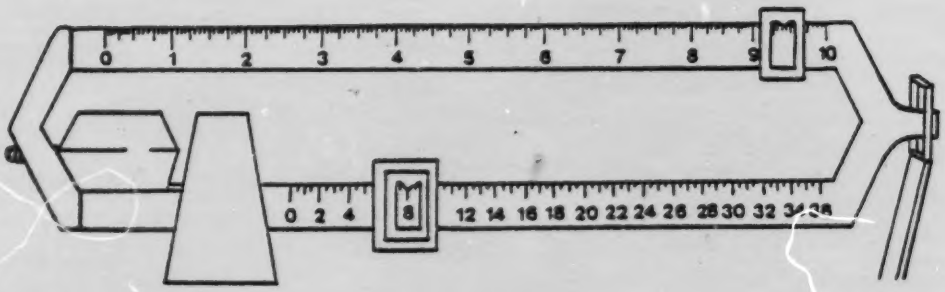
2. When you weigh an infant the weight is recorded in pounds plus ounces. For example, the picture shows that the pound indicator is on 8#, the ounce indicator is on 9 oz. You will record the weight this way:
   4/9/76 wt. = 8# 9 oz.



INFORMATION

NOTE (con't):

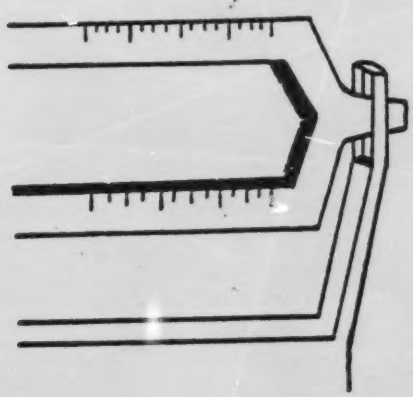
3. The ounce indicator is divided into fractions of an ounce so you may read 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8 of an ounce also. Here, the scale reads 8# 9 3/8 oz.



JOB STEPS

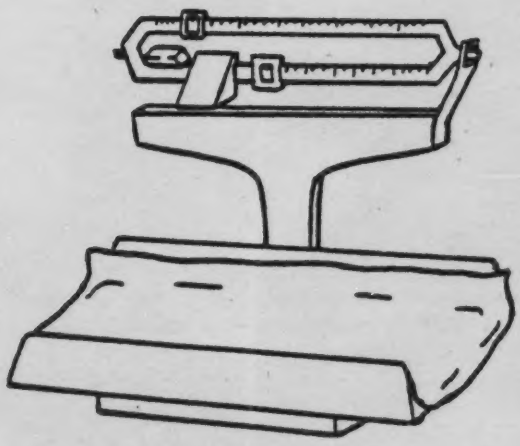
1. Place both slides on "0".

2. The pound indicator should balance in the center: If the indicator does not balance, loosen the screw on the balance slide and move until the indicator balances in the center. Tighten the screw.



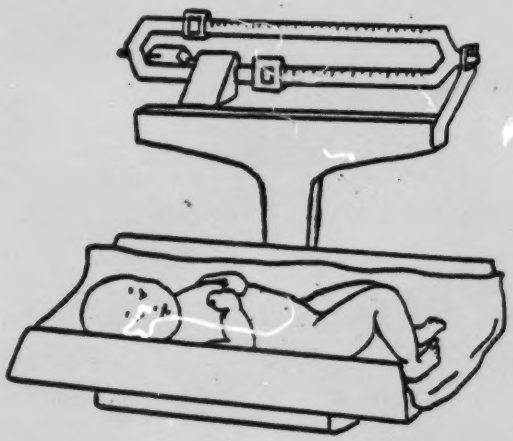
3. Have the parent remove the baby's clothing.

4. Place paper cover on scale.



JOB STEPS

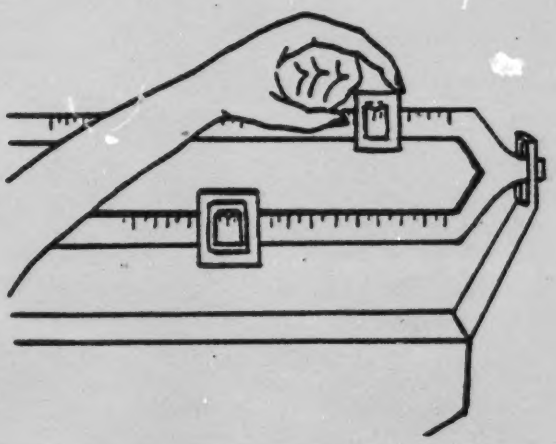
5. Place the baby on the scale. (Ask instructor to demonstrate how to lift and hold.)



6. Have the parent stand right beside the scale so the child doesn't fall.

7. Measure the baby's weight by sliding the pound indicator until the level goes down. Then move the indicator back to the next lower number.

8. Now move the ounce indicator until the lever balances in the center.



JOB STEPS

9. Read the weight.

10. Take the baby off the scale, hand to the parent.

11. Record the weight in pounds and ounces e.g. 9# 14 3/8 oz. on the medical record.

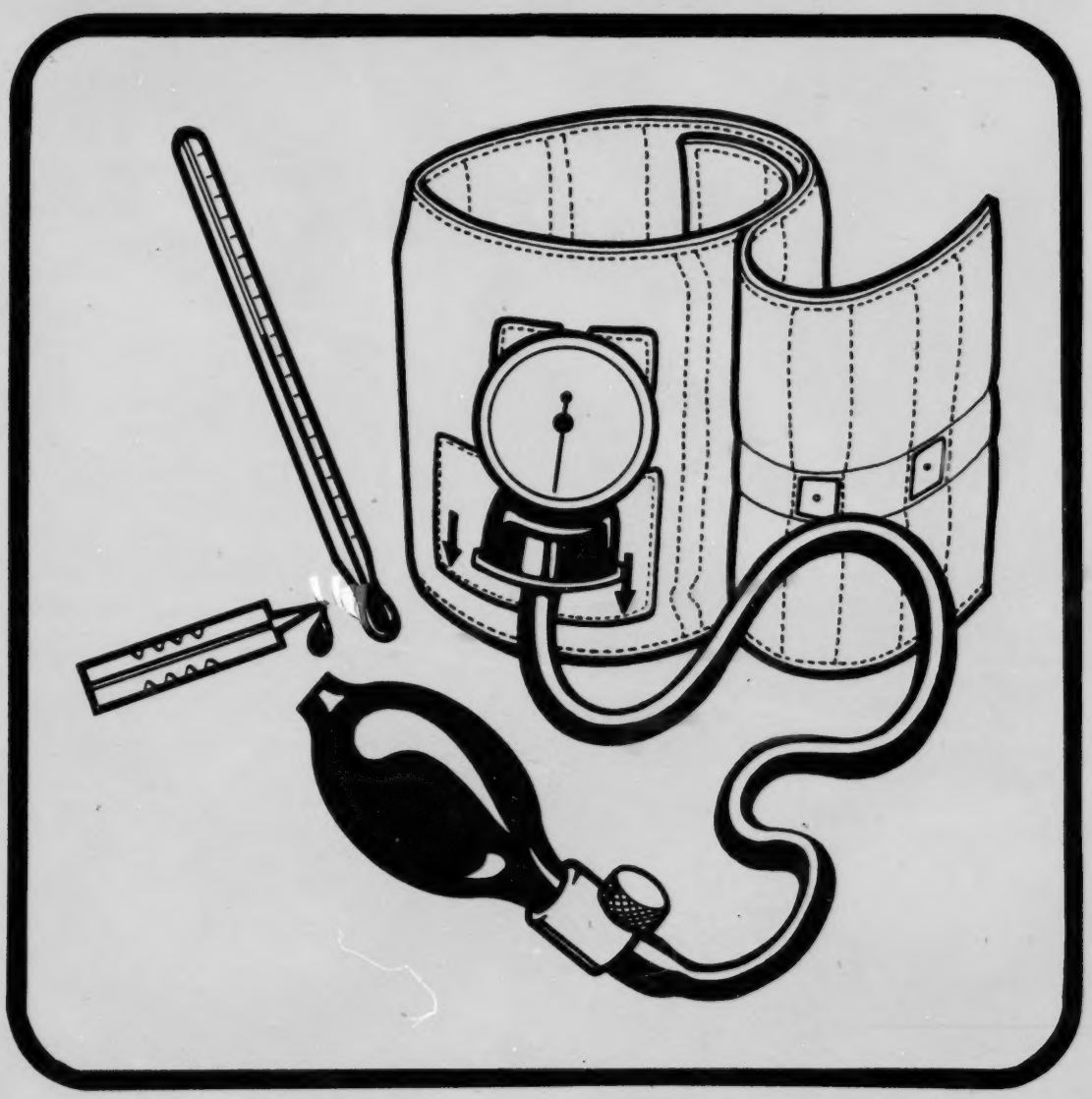
12. Remove the paper cover and throw into the waste paper basket.

QUESTIONS:

1. How many ounces in a pound?

2. What can you do to get an accurate weight when the baby is kicking and move the scale?

3. Where should the parent stand while you are weighing the infant?



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 006 **date:** June 1977 **level:** I

skill title: How to Weigh and Measure a Patient's Height on a Beam Scale

developed & written by: Pat Pittenger

visuals by: Mary Ann Gamel

PERFORMANCE OBJECTIVE

You are going to learn:

How to weigh and measure a patient's height on a stand-on Beam scale.

And in order to do this you will need:

Beam scale

Paper towel

Patient's chart

Pen

Scale with height rod

Three people acting as patients

We will know you can do this when:

1. You balance the scale at zero before you weigh the patient and then have patient remove any heavy clothes and shoes.
2. You can correctly weigh a patient within 1/4 pound and then, chart the weight.
3. You have patient remove shoes before you measure patient's height.
4. You can correctly measure a patient's height within 1/4" and then, record height on patient's chart.
5. You can correctly change inches into feet.

INFORMATION

Correct patient weight and height is important for many reasons. A patient's height is used for identification purposes. Some patient's may be too thin or too heavy according to their height. A special diet may be required for this patient. The doctor will note how the diet changes the patient's weight.

Some medicines affect a patient's weight. It is important to know how medicine changes a patient's weight.

Diseases can cause the patient to lose or gain weight. Certain treatments can change a patient's weight. The dose of many medicines will depend on the patient's weight. A patient that weighs 100 pounds will need less medicine than a patient who weighs 200 pounds.

Use great care to weigh a patient. It is very important to correctly weigh the patient every time. As part of your job, you will have to weigh children.

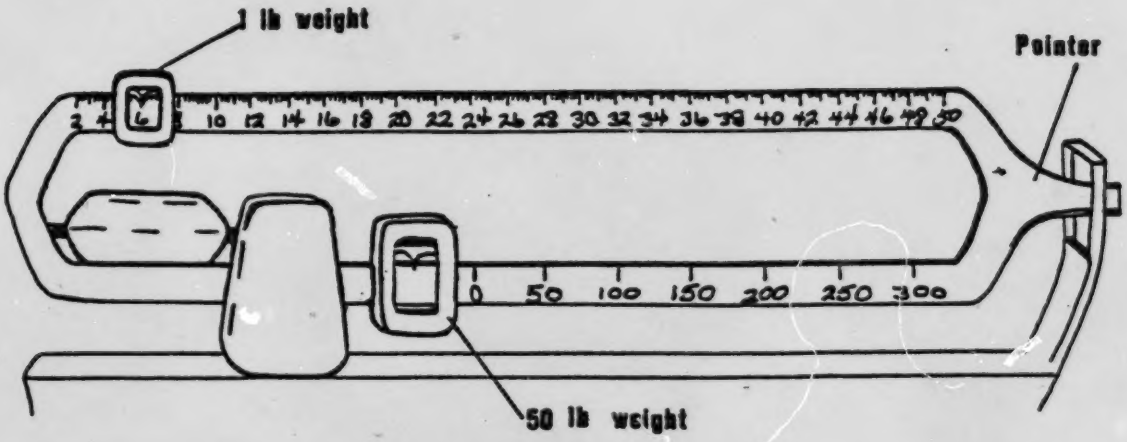
Have the patient undress the child, leaving on under pants or diapers.

Be friendly and patient with children. Have parent accompany child to the scale. It can be difficult for children to stand still. It will help if the parent kneels down close to the child.

Usually, the scale is kept near the lab or treatment room. Most doctor offices contain the stand-on Beam scale with a height rod.

INFORMATION

The following is a picture of the Beam scale with a height rod used for measuring height.

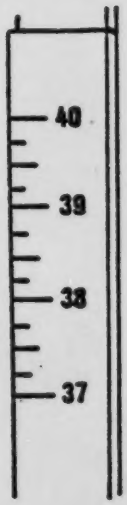


The height rod looks like a ruler. It is made up of three parts. The bottom bar of the rod measures up to 50 meters. The top bar measures from 50 to 77 inches. The top bar slides up and down.

At the end of the top bar is a silver colored rod. This rod folds down onto the top bar. It lifts up and away from the top bar. You will place the silver rod on top of the patient's head.

INFORMATION

The numbers on height rod measures inches. The space between each mark on the rod equals 1/4 of an inch.



If the patient is less than 50 inches, you must read the height rod from the bottom up. Do not use the top of the bar at all.

If the patient's head is between 2 numbers, you must read the bottom number plus the fraction of the inch above the number.

If the patient is more than 50 inches tall you must read the height at the line where the top bar meets the bottom bar. You read the height from the bottom down.

After you know how many inches tall a patient is, you must change the inches to feet.

INFORMATION

To change inches to feet, you divide. There are 12 inches in one foot. You divide the total inches by 12. The answer is in feet. Any remainder is added as inches.

So a patient 60 inches tall is:

60 ÷ 12 = 5 feet tall

```
      5
12 ) 60
```

A patient 71 inches tall is:

71 ÷ 12 = 5 feet, 11 inches tall

```
      5
12 ) 71
     60
     11
```

Practice changing these heights:

48 inches - 48 ÷ 12 = 4 feet tall

72 inches - 72 ÷ 12 = 6 feet tall

67 inches - 67 ÷ 12 = 5 feet, 7 inches tall

If a patient is 60 1/2 inches tall, you divide 60 by 12 and add 1/2 inch. If a patient is 76 3/4 inches tall, you divide 76 by 12 and add 12 3/4 inches. When you write down a patient's height, the terms are:

HT. - Height

FT. - Feet

IN. - Inches

JOB STEPS

MEASURING A PATIENT'S WEIGHT

1. Take your patient to the examining room.

2. Ask your patient to remove any heavy outer clothing and shoes. Write down on patient's chart the amount of clothing worn.

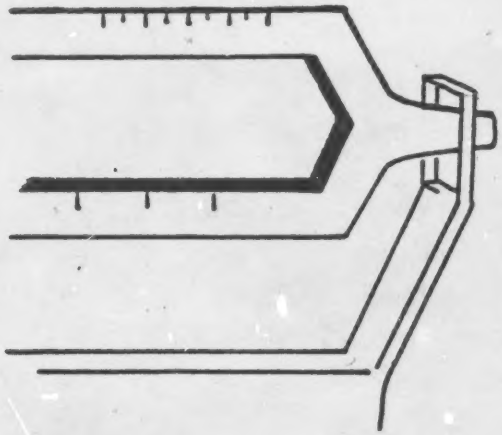
3. Take the patient and a clean paper towel to the scale.

4. Open the paper towel. Place it on the scale where the patient puts feet.

5. Balance the scale at zero <u>before</u> the patient stands on the scale.

6. To balance the scale, move the 50 lb. weight to the zero notch located to the left of the beam. Then, move the lb. weight to the zero notch at the left of the beam.

7. Look at the pointer. It should balance halfway between top and the bottom rest.



JOB STEPS

8. If the pointer touches the top or bottom rest. Check to see if the 50 lb. or 1 lb. weights are at zero.

9. If the pointer still does not balance you must adjust the balance weight at the far left. Slowly, slide the bar to the left or right until the pointer does not touch the top or bottom rest. When it balances you are ready to weigh your patient.

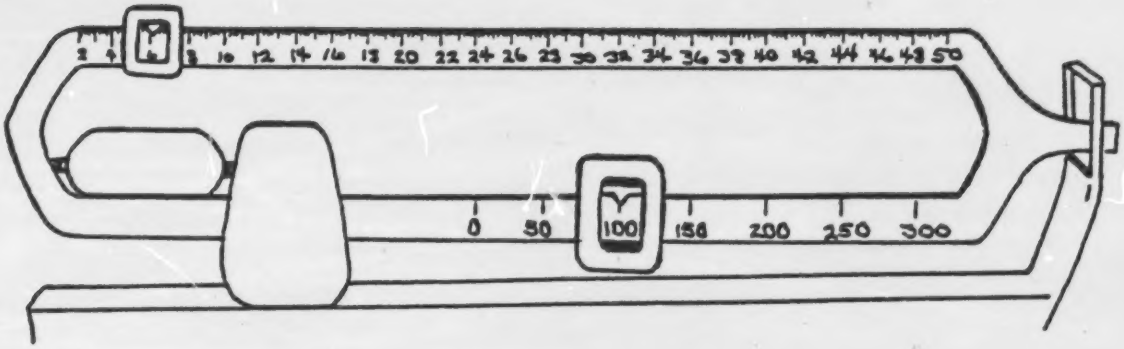
10. Holding the patient's arm, ask the patient to stand on the paper towel.

11. Ask the patient if he/she has their balance.

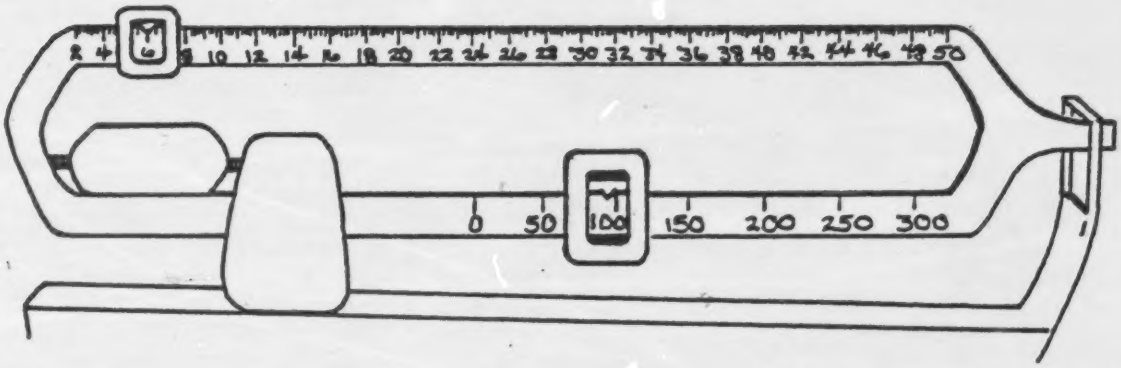
12. Slowly let go of their arm and ask the patient to stand still with arms down by their sides. Do not let the patient hold onto anything.

JOB STEPS

13. Move the 50 lb. weight to the right until it makes the pointer fall to the bottom rest. The weight will fit into the notches. See illustration.



14. Move the 50 lb. weight one notch to the left. The pointer will raise to the top rest. See illustration.



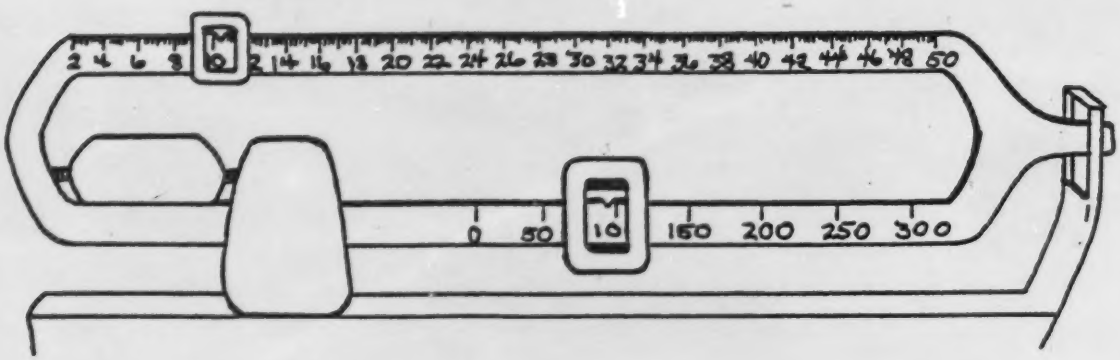
This indicates the patient weighs more than 100 pounds and less than 150 pounds.

15. Slowly, move the 1 lb. weight to the <u>right</u>. The pointer will start to fall.

JOB STEPS

16. Move the one pound weight to the left <u>if</u> the pointer falls to the bottom rest.

17. When the pointer is halfway between the top and bottom rest, stop moving the one pound weight.



18. When you reach the proper number on the 50 lb. and 1 lb. bar, add the two numbers together. The total is the patient's weight.

    Example: 100 + 25 = 125 pounds

19. When you write down a patient's weight, use the short term for weight, <u>WT</u>.. A person's weight is measured in pounds. The short term for pounds is <u>LB</u>. If a person's weight is 125 pounds. Write down 125 lbs.

20. Help the patient down from the scales by holding the patient's arm. Have the patient return to the examining room.

21. Throw away the used paper towel.

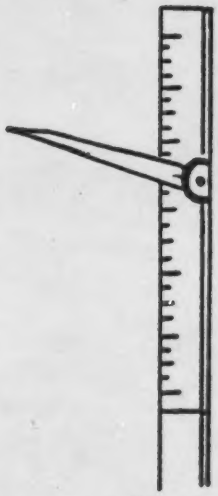
22. Write down the patient's weight on the chart.

JOB STEPS

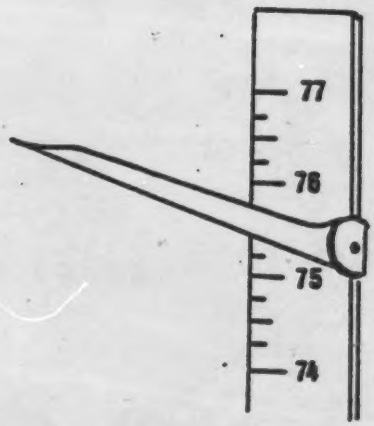
MEASURING A PATIENT'S HEIGHT

1. Go to the beam scale, find the height rod.

2. Pull the top bar up and out of the bottom bar.



3. Pull the silver bar up and away from the top bar.



4. Take your patient to the scale.

5. Tell the patient what you are going to do.

JOB STEPS

6. Ask the patient to take off their shoes.

7. Lift up the bar on the height rod and raise it all the way up.

8. Ask the patient to step onto the scale and stand in the middle of the base with arms down at sides.

9. Ask the patient to stand up straight with head up and to look straight ahead.

10. Slowly, bring bar down until it rests lightly on the patient's head.

11. Read the number of inches. Remember to read the height at the line where the top bar fits inside the bottom bar.

JOB STEPS

12. Write down patient's name and height in inches on a piece of paper. Lift up the bar. Have the patient step off the scale. Help the patient put on their shoes.

13. Now, change the patient's height from inches to feet and write it on the patient's chart. See information section of this mod for further explanation.

REVIEW

Now review what you have learned. Write your answers on another sheet of paper. Do not write in this mod.

1. Is patient weight important for patients taking certain medicine? Yes or No

2. Which of the following items may affect your weight.

   1. Medicine
   2. Disease
   3. Certain treatments
   4. Diet
   5. Color of hair
   6. Pregnancy

3. What do you put on the scale for the patient to stand on?

4. Does the patient wear their shoes when they are weighed? Yes or No

5. What should the pointer be halfway between when you balance the scale?

6. Where should the pound weights be at when you balance the scale?

7. Should you write down the patient's weight right away? Yes or No

Answers

1. yes
2. 1, 2, 3, 4, 6
3. paper towel
4. no
5. top rest, bottom rest
6. zero
7. yes

Now show what you have learned.

Your instructor will watch you weigh and record the weight of three people acting as patients, for 3 days.

1. Patient's Name_____

   Date_____ Date_____ Date_____

   Weight_____ Weight_____ Weight_____

2. Patient's Name_____

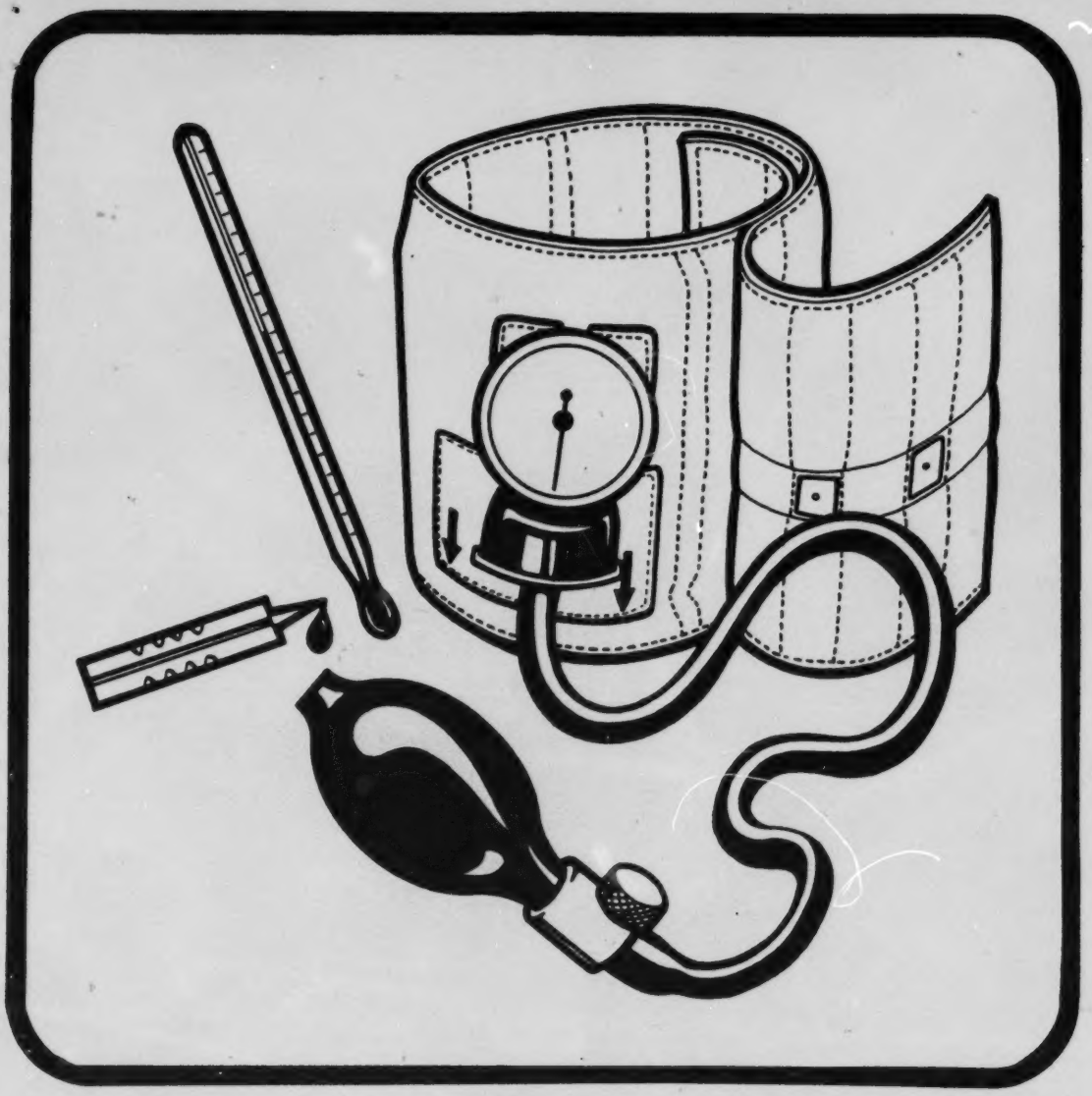
   Date_____ Date_____ Date_____

   Weight_____ Weight_____ Weight_____

3. Patient's Name_____

   Date_____ Date_____ Date_____

   Weight_____ Weight_____ Weight_____



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 007 date: June 1977 level: _____

skill title: How to Read a Thermometer

developed & written by: Pat Pittenger

visuals by: Sandra Gostomski

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to read a thermometer

IN ORDER TO DO THIS YOU WILL NEED:

1. Four thermometers to read
2. Detergent - Water
3. Counter area with a sink

WE WILL KNOW YOU CAN DO IT WHEN:

You can read the temperature on the thermometers within .2 of a degree.

WORD GUIDE

ORAL - Refers to the mouth.

PYREXIA - A fever

FEVER - A temperature above normal (98.6°) elevated.

HYPOTHERMIA - A temperature below normal.

INFORMATION

Taking a patient's temperature is a part of every physical examination. Most Doctors will check the patient's temperature at every visit. A thermometer measures a person's body heat.

Eating, drinking, smoking, or exercising may raise the body temperature. Cold drinks may lower an oral temperature. Body temperature is usually lower in the morning and rises during the day.

Your body maintains a certain temperature. If you get sick, your temperature may rise. A high temperature, a "temp" or a "fever", may indicate that something is wrong with the patient.

A thermometer is a small glass tube, it has two parts, a bulb and a stem.

The stem of the thermometer has a small empty tube in it.

The bulb stores mercury, a silver liquid.

When the thermometer is put into a patient's mouth, the patient's body heat will make the mercury in the bulb go up into the empty stem tube. After a certain number of minutes, the mercury will stop rising. The number where it stops is the patient's temperature.

On the stem of the thermometer are lines and numbers: (See illustration on next page)

WORD GUIDE

FAHRENHEIT - A system of measuring heat by degrees. Short term is F.

CENTIGRADE - Metric system of measuring heat by degrees. Short term is C.

INFORMATION

The thermometer you will use measures body heat in "degrees" on the Fahrenheit Scale. A normal body temperature on the Fahrenheit Scale is 98.6° F. The ° after the last number means degrees.

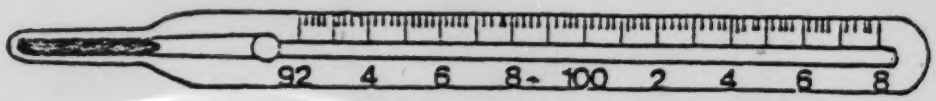
Not every person has a normal temperature of exactly 98.6° F. This number is only a guide for you.

The 98.6° mark is often marked by an arrow on the stem of the thermometer. The first number on the thermometer can be 90°, 92°, or 94°.

JOB STEPS

1. Collect materials and go to work area.

2. Find the number 92° in the picture below:

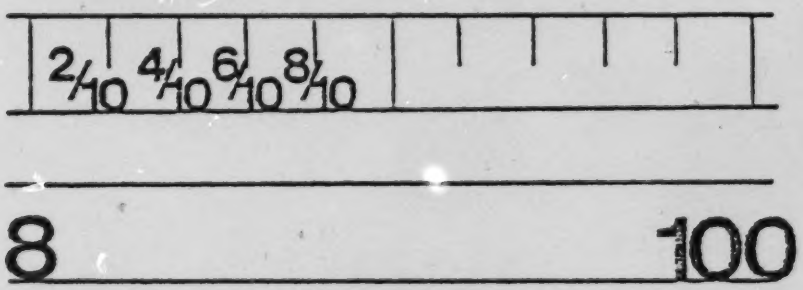


NOTE: The next number is 4 which indicates 94. The number 9 is usually not written on the thermometer.

SECTION A

Each number is by a long line. Each long line measures one whole degree.

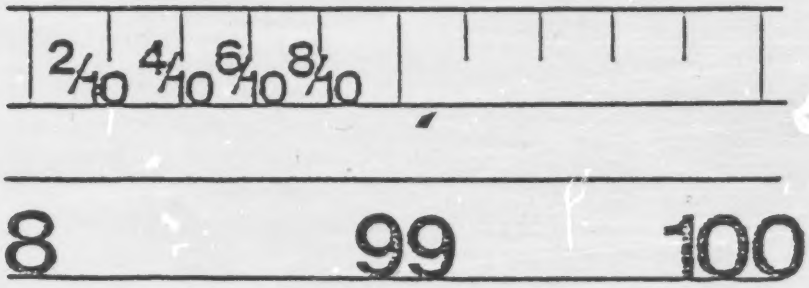
3. Look at the picture below. The picture will help you learn how to read a thermometer. The first long line is 8, or 98 whole degrees. Each small line measures two tenths of a degree.



NOTE: Since all the numbers are not put on the thermometer, you must learn and remember how the tenths are numbered. You do not write or say 2/10, 4/10; you write 98.2° or say "Ninety-eight point two".

4. The next long line after 98.8 is the 99° line. Find the 99° line indicated in Figure 3.
(See illustration on next page)

JOB STEPS



SECTION B

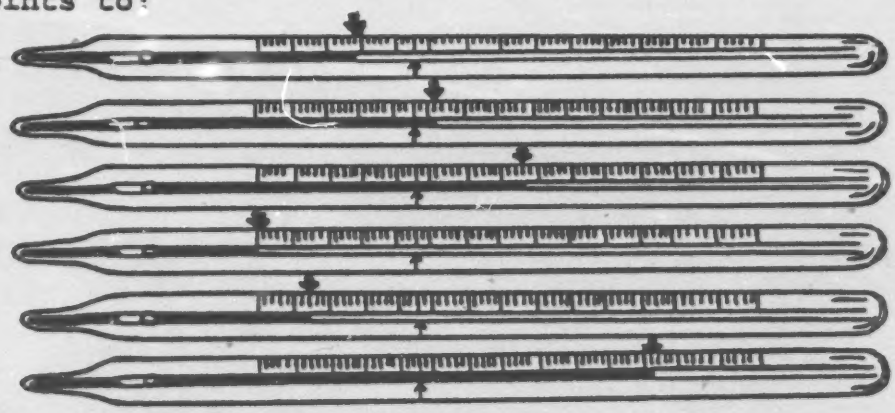
Every other long line on a thermometer has an even number, like 2, 4, 6, and so on.

SECTION C

5. The long line between two numbers stands for the odd number not marked. So the long line between 2 and 4 stands for 3.

6. In the pictures below, write down the numbers the arrow points to:

A.
B.
C.
D.
E.
F.

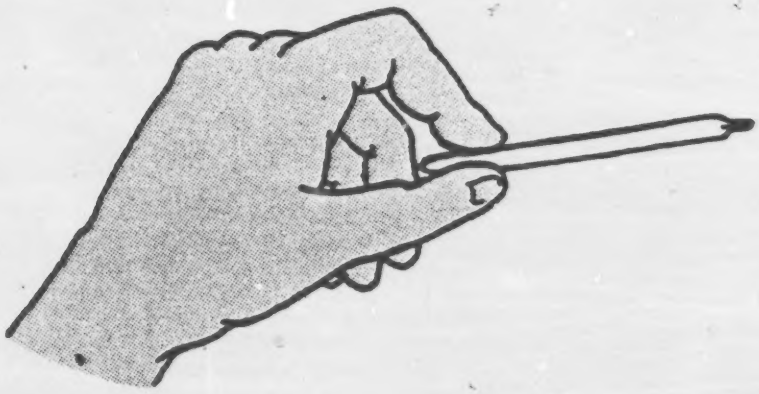


If you have any questions, ask your instructor for help.

7. Pick up thermometer by the stem. Put the bulb end in your mouth, under your tongue. After a few minutes, take the thermometer out of your mouth. Do not bite the thermometer.

8. Hold the thermometer by the stem between your first finger and thumb.
(See illustration on next page)

JOB STEPS



8. Turn the thermometer so you can see the mercury and the numbers.

   NOTE: The mercury is either a silver or red color.

9. Look at the thermometer. Note where the mercury has stopped. Ask your instructor to check your answer.

10. Have three classmates put thermometers into their mouth. After a few minutes, take out the thermometers and read the temperature. Have your instructor check your answer.

Answer the following questions. Do not write on this page. Use scrap paper for your answers.

1. A thermometer measures a person's _____ _____.
2. A high temperature may indicate the body is becoming _____.
3. A thermometer consists of a _____ and a _____.
4. _____ is stored in the bulb.
5. The stem has _____ and _____ on it.
6. The "normal" body temperature is _____.

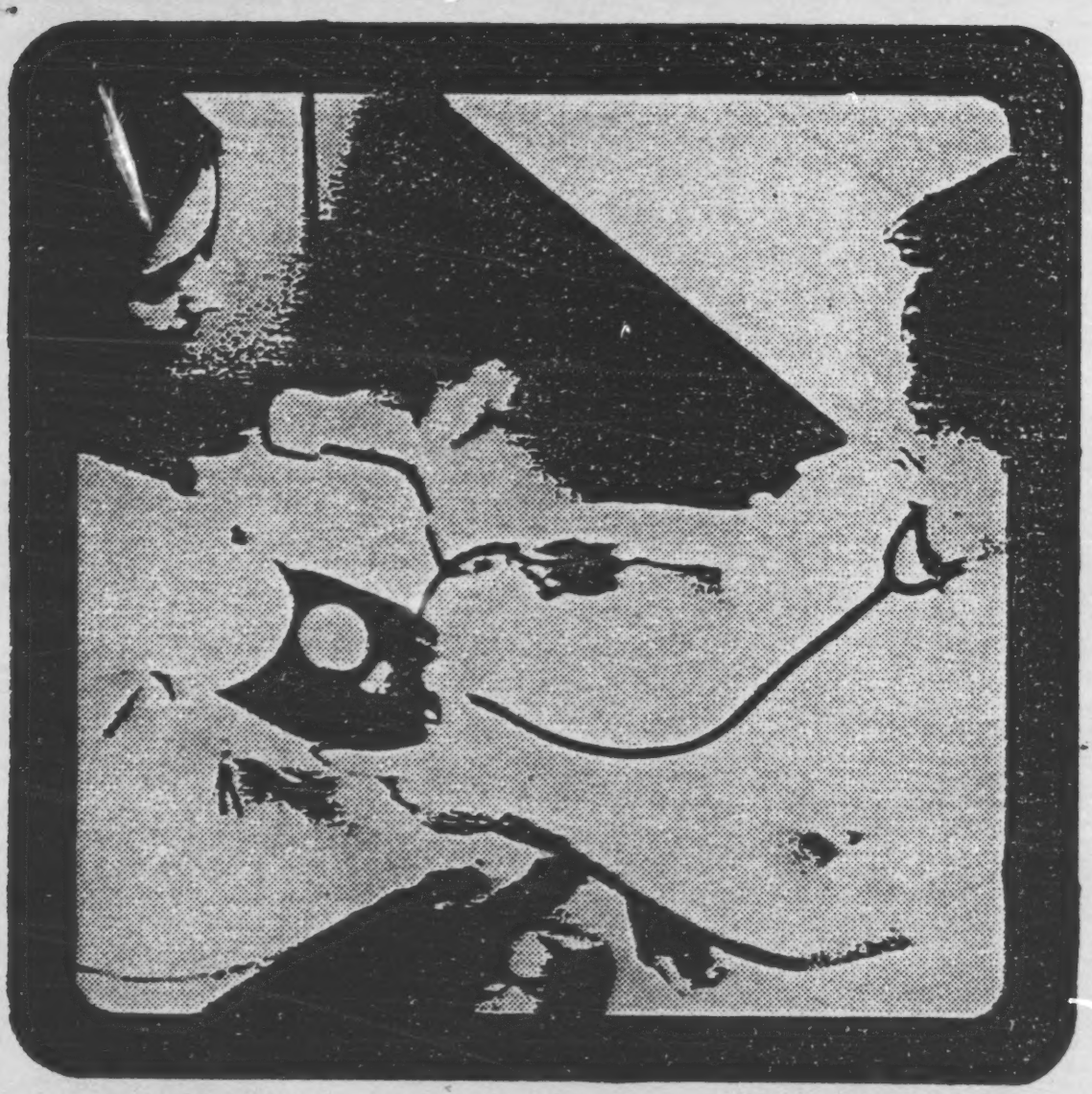
ANSWERS

PAGE 6

1. 96.8
2. 99.2
3. 101.6
4. 93
5. 95.4
6. 105.2

PAGE 7

1. Body heat
2. Ill
3. Stem, bulb
4. Mercury
5. Lines, numbers
6. 98.6° F.



medical assistant

unit: The Examination

capital area career center

module: 4401 05 008 date: 6/77 level: _____

skill title: How to Take an Oral Temperature

developed & written by: Pat Pittenger

visuals by: Sandra Gostomski

WORD GUIDE

ORAL - Mouth

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to take an oral temperature.

IN ORDER TO DO THIS YOU WILL NEED:

Glass thermometers
Paper tissue
Watch
Questions to ask patient
Person acting as patient

WE WILL KNOW YOU CAN DO IT WHEN:

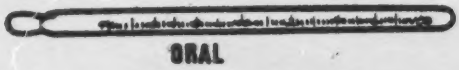
1. You can take a patient's oral temperature
2. You ask patient correct questions regarding his/her recent intake.
3. You wipe thermometer before and after taking temperature.
4. You shake down thermometer to 96° or less.
5. You check thermometer before using it.
6. You place thermometer well under tongue and keep in place for 8 to 9 minutes.
7. You tell patient what you are going to do and what he/she should do.
8. You read thermometer to within .2° F.

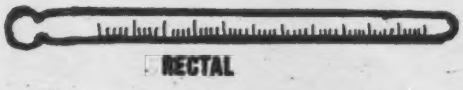
INFORMATION

There are two types of thermometers. One is used to take a temperature in the mouth. This is called an ORAL thermometer.

Another type of thermometer is used to take a temperature in the rectum. This is called a RECTAL thermometer.

Look at the pictures below. Note the difference between both types of thermometers.





The oral thermometer has a long, thin bulb. The rectal thermometer has a short, fat bulb.

Some oral thermometers also have short, fat bulbs. There are two other ways to tell the difference between an oral and rectal thermometer.

Look at the thermometer stem; some will have printed rectal or oral on the stem. Look at the end of the stem. Red color indicates rectal. Any other color indicates oral.

CAUTION: Never use a rectal thermometer in the patient's mouth and never use an oral thermometer in the patient's rectum.

Usually, in Doctors' offices, there are thermometer holders labeled Rectal and Oral. They are kept in the examining room.

JOB STEPS

1. Collect your material and patient and go to your work area.

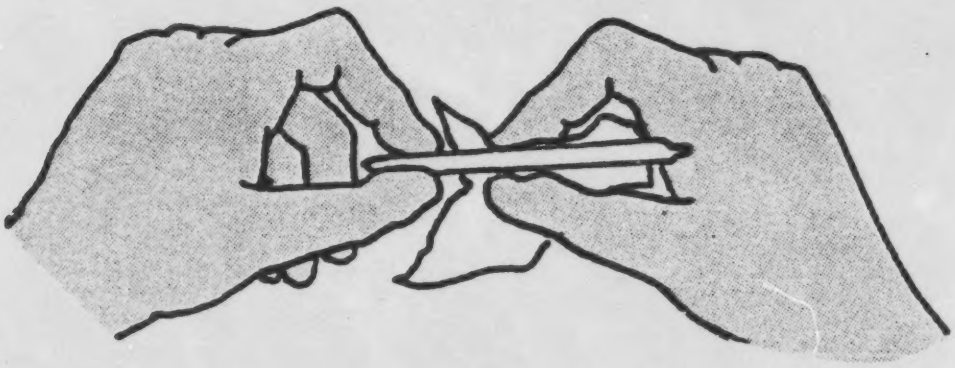
2. Wash your hands.

3. Tell your patient you are going to take his/her temperature.

4. Ask your patient what he/she has eaten or drank in the last 15 minutes. If your patient has eaten, drank, or smoked within the last 15 minutes, wait 15 minutes before taking the temperature.

5. Take the thermometer from its holder. Be sure you have an oral thermometer. Check to be sure the bulb is not broken.

6. Hold the thermometer at the tip of the stem between your first finger and thumb. Using a paper tissue, wipe down to the bulb. Do not wipe back up the thermometer.



7. Read the thermometer. If thermometer reads higher than 96°, shake it down until it reads 96°.

JOB STEPS

8. To shake down a thermometer, be sure thermometer and your hands are dry. Then, hold thermometer between thumb and fore finger, at the upper part of stem. Bring the bulb up and, with a snap of the wrist, bring the hand down fast.

NOTE: It is very easy to break a thermometer. Be careful the bulb end does not hit anything.

9. Ask the patient to open his/her mouth and lift his/her tongue.

10. Place thermometer under his/her tongue, toward the side of his/her mouth.

11. Tell your patient the following steps:

JOB STEPS

A. Close his/her mouth and lips.

B. Not to bite down with his/her teeth.

C. Leave the thermometer in mouth until you take it out.

D. Tell the patient the thermometer must be in place for at least 8 minutes in order to get an accurate reading.

12. Time the 8 minutes using your watch. If you leave the room, check on patient in five minutes.

13. Ask the patient to open his/her mouth so you are able to remove the thermometer.

14. Read the thermometer as you have learned in another mod.

15. Using a paper tissue, wipe down the thermometer using a twisting motion as you wipe. Throw away tissue.

16. Return the thermometer to its holder.

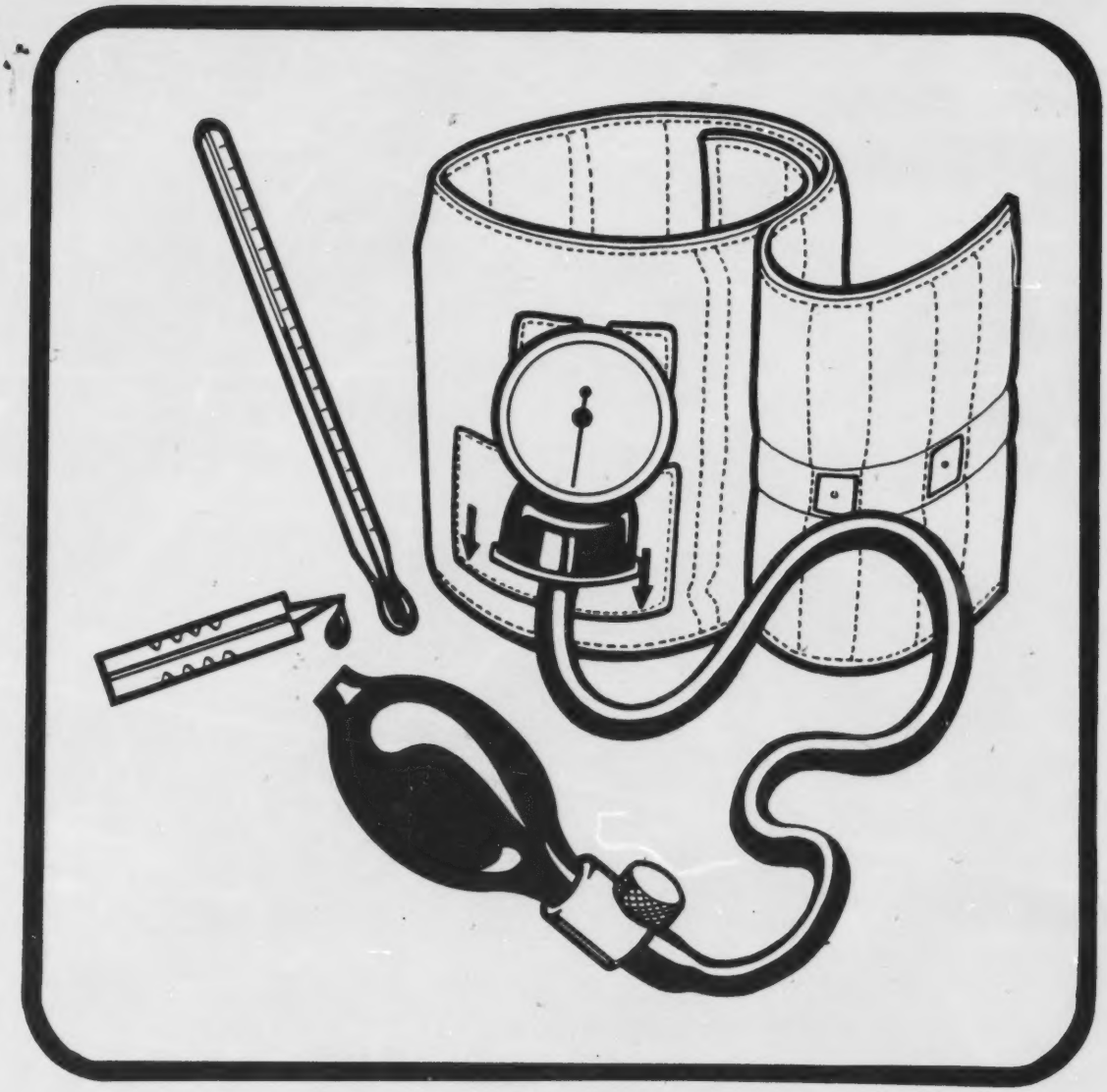
17. Wash your hands.

18. Write down the temperature on the patient's record.

9/22/77 T99.4 oral

19. Practice taking the temperature of other patients.

20. Have your instructor check your work.



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 010 date: June 1977 level: _____

skill title: How To Take An Infant's Rectal Temperature

developed & written by: Pat Pittenger

visuals by: Sandra Starnaman

PERFORMANCE OBJECTIVE

You are going to learn:

How to take an infant's rectal temperature.

And in order to do this you will need:

An infant doll with a diaper

Rectal thermometer

Paper tissue

Lubricant

Watch with second hand

Container for "dirty" thermometer

Chart for recording

Wastebasket

We will know you can do it when:

1. You read the thermometer within .2° F.
2. You lubricate thermometer.
3. You hold thermometer in place for 2½ minutes.
4. You direct parent to hold infant during procedure in order to prevent falls.
5. You use a tissue to wipe thermometer from stem to bulb after removing from rectum.

WORD GUIDE

RECTAL - Anus, or opening into the rectum.

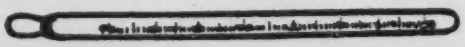
SUPINE - Lying on your back.

LUBRICANT - A jelly, like vaseline.

INFORMATION

The normal reading for a rectal temperature is often a little higher than a reading for an oral temperature. The "normal," oral temperature is 37° C, or 98.6° F. Normal rectal will be near 99.6° F or 37.2° C.

When taking a rectal temperature you must be sure to use a rectal thermometer. Rectal thermometers have a short, fat bulb and the tip of the stem is marked in red.



WORD GUIDE

SUPINE (Soo-pine) - Flat on back.

JOB STEPS

1. Collect the materials you will need and go to your work area.

2. Wash your hands.

3. Place infant doll in a supine position. If you use a small child, tell him/her what you are going to do.

4. Remove the diaper and place it under the buttock. If the infant is a male, place diaper over penis and scrotum.

JOB STEPS

5. Take the thermometer out of the holder and check the reading on the thermometer. Shake down thermometer if it reads above 96°.

6. Put a small amount of lubricant onto a paper tissue.

7. Rub the bulb of the thermometer in the lubricant until lubricant covers whole bulb up to 1-1½ inches of the stem.

8. Using the left hand, hold together both feet of infant or doll and raise up infant, showing buttock and rectal opening.

   NOTE: If necessary, have parent stand at head of examining table and hold infant to keep him/her from moving.

JOB STEPS

9. Carefully, slip bulb end of thermometer into the rectal opening. Put 1-1½ inches of the thermometer into rectum.

   NOTE: Do not push or poke the thermometer too far. If you meet resistance, have mother stroke baby's head and talk to the infant until he/she relaxes. Then, try inserting again. If still unable to insert thermometer, check with the Doctor.

10. Hold the thermometer in place for 2½ minutes. Use your watch to time 2½ minutes.

11. After 2½ minutes, remove the thermometer.

12. Have parent hold the baby.

JOB STEPS

13. Using a tissue, firmly wipe the thermometer from the stem to the bulb.

14. Throw away the tissue.

15. Read the thermometer.

16. Shake down the mercury to below 96°.

17. Place the thermometer in the container for soiled thermometer.

18. If necessary, help parent with infant.

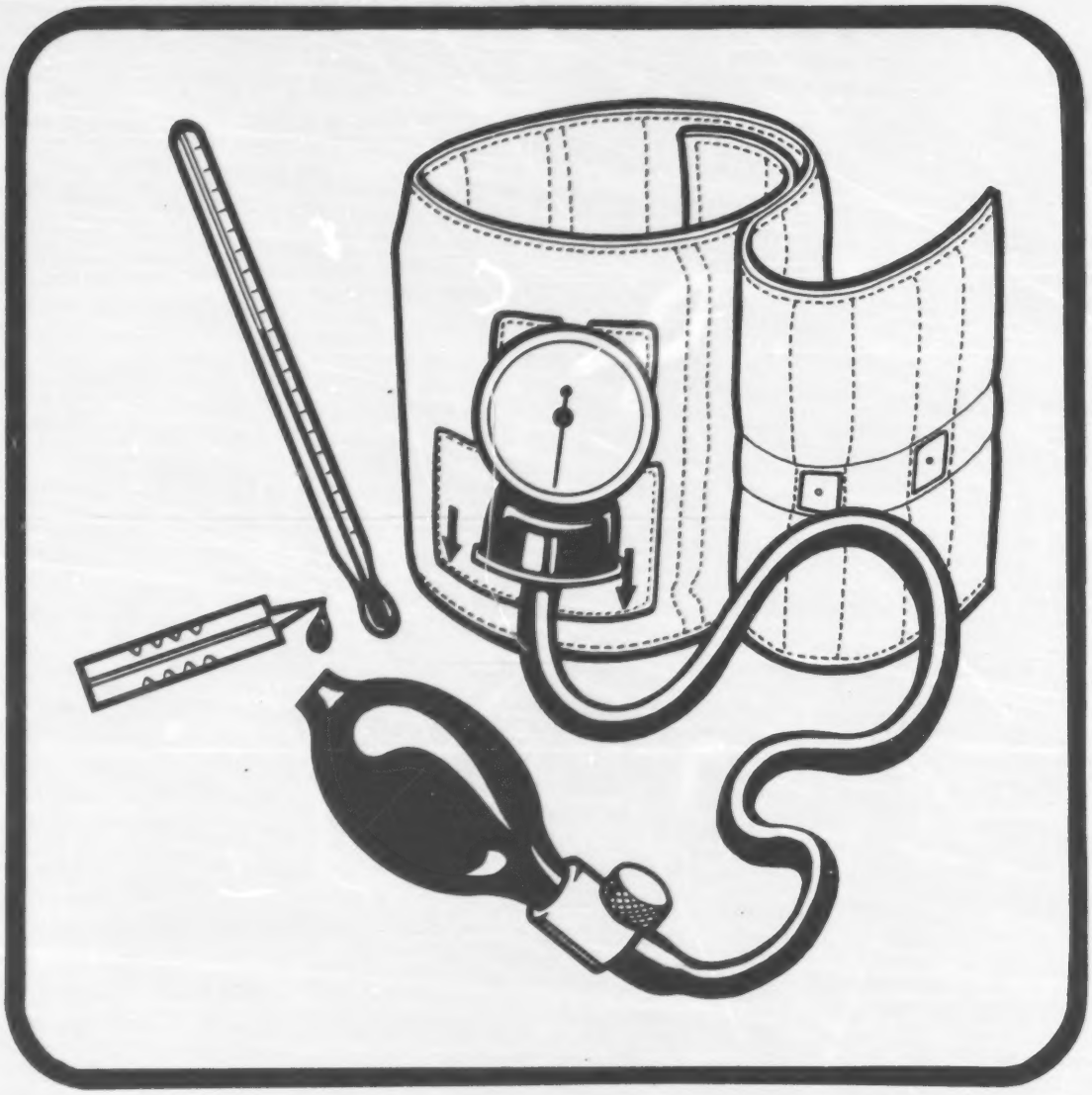
19. Wash hands.

JOB STEPS

20. Record the temperature on infant's chart. Be sure to write down a small "r" after the temperature reading.

NOTE: A rectal temperature is often higher than an oral temperature. It is important that you always write a small "r" after rectal temperature.

22. Put away all equipment.



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 011 date: June 1977 level: II

skill title: How To Take An Axillary Temperature

developed & written by: Beverly Varney

visuals by: Sandra Gostomski

WORD GUIDE

AXILLARY - Refers to the axilla or armpit.

PERFORMANCE OBJECTIVE

You are going to learn:

How to take an axillary temperature.

And in order to do this you will need:

Classmate to act as a patient
Thermometer
A pen
Medical history card
A watch
Container for soiled axillary thermometers

We will know you can do it when:

1. You leave in the thermometer for 10 minutes.
2. You accurately read the temperature within .2 degrees.
3. You can answer the questions at the end of the module.

WORD GUIDE

THERMOSTAT - A heat regulator.

CNS - The abbreviation for Central Nervous System. The part of the body involving the nerves, brain and spinal cord.

PULSE - Rate of the heartbeat felt by the pressure of blood against the walls of the arteries.

INFORMATION

There are three routes for taking a temperature:

1. Oral route - mouth
2. Rectal route - rectum
3. Axillary route - under the arm.

The normal oral temperature range is from 97.7°F to 99.5°F (36.5° to 37.5°C.). Rectal temperatures register about 1°F higher than oral temperature. Axillary temperature registers about 1°F lower than oral. All temperatures are usually 1°-2°F lower in early morning than in late afternoon.

The body keeps temperature at normal levels by regulating heat loss and heat production. Temperature is regulated by a thermostat in the brain. When a person is sick, has had a head injury or has a CNS disease, your thermostat will become confused and the temperature will rise. A rise in temperature is called hyperthermia (hi-per-therm-ee-ah).

When a patient's temperature rises, the body needs more oxygen. So, the pulse rate increases and breathing becomes faster.

INFORMATION

Hypothermia means lower than normal temperature. Hypothermia can result from accidental overexposure to cold or by blood loss that causes shock. Hypothermia is sometimes used to prepare a patient for certain kinds of surgery; the patient's body is cooled to a very low temperature, so it will not need as much oxygen during heart surgery or brain surgery.

Axillary temperatures are a safe and accurate way of measuring body heat. Taking an axillary temperature would be more comfortable for a patient with a stuffy nose who breathes through the mouth, or one who has their jaw wired closed because of a broken bone, or some other facial problem.

In order to get an accurate reading, leave the thermometer in place for 8-9 minutes. It is not necessary for a patient to remove their clothing if you can place the bulb end of the thermometer into the armpit. If it is necessary for the patient to remove their clothes because they are tight, cover the patient with a paper drape.

JOB STEPS

1. Collect your materials.

2. Ask the patient to come into the examining room.

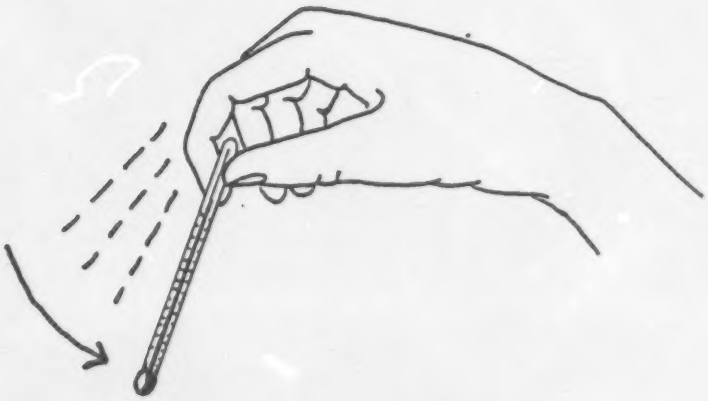
3. Have the patient sit in a chair or on the exam table.

4. Tell the patient you are going to take their temperature under their arm.

5. Wash your hands.

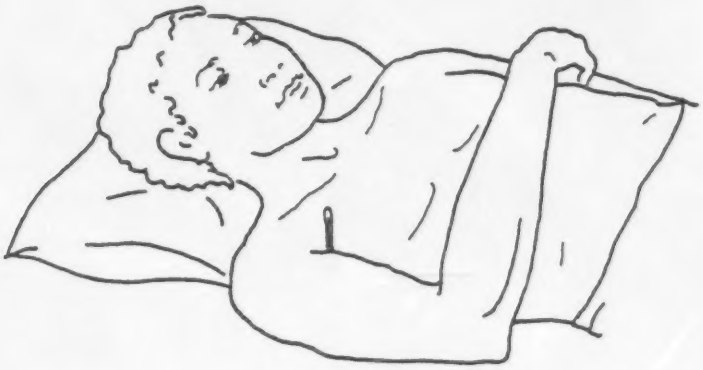
6. Ask the patient to remove his/her clothing from one shoulder, unbotton the front, or remove one arm from one sleeve. Choose the appropriate method depending on the situation.

7. Check the reading on the thermometer. The temperature should read 94°F or lower. If it reads higher, shake it down.



JOB STEPS

8. Place the thermometer well into the patient's armpit. Tell them to cross their arm over their chest and keep it close to their body. Leave the thermometer in place for 8-9 minutes.



9. After 8 to 9 minutes, remove the thermometer.

10. Tell the patient they may put on their clothing.

11. Wipe the thermometer with kleenex.

12. Read the temperature.

13. Place the thermometer in proper container for soiled axillary thermometers.

14. Look at sample below. Record the temperature like this sample recording:

    6/11/77 T 96.4 ax.

JOB STEPS

15. Answer these questions on paper. DO NOT WRITE IN THE MOD.

    1. Name at least two situations in which you would take an axillary temperature instead of an oral temperature.

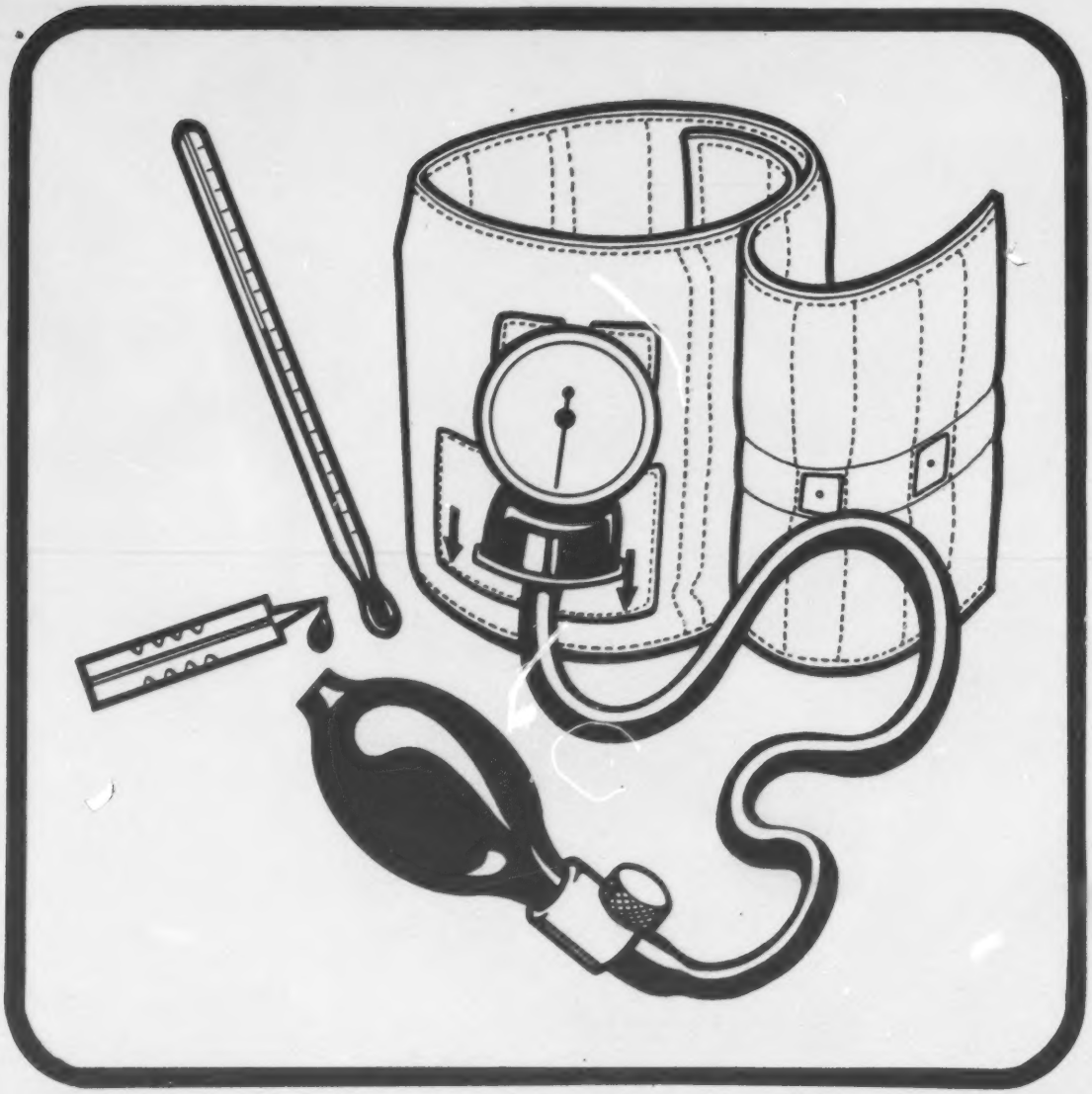
    2. Is an axillary temperature as accurate as an oral temperature?

    3. What is the normal temperature range?

    4. What is the name for higher than normal temperature?

    5. Name 3 causes for an increase in temperature.

    6. What is the name for lower than normal temperature?



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 012 date: June 1977 level: I

skill title: How to Take a Radial Pulse

developed & written by: Beverly Varney

visuals by: Mary Ann Gamel 79

WORD GUIDE

RADIAL - The artery on the thumb side of the wrist, named for the radius.

RADIUS - The bone on the thumb side of the forearm.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to take a radial pulse.

IN ORDER TO DO THIS YOU WILL NEED:

A watch with a second hand
A classmate for a patient
A patient record
A pen

WE WILL KNOW YOU CAN DO IT WHEN:

1. You count the pulse within four beats of the rate your instructor counted.
2. You accurately record the pulse on the patient's record.
3. You can do an accurate pulse on more than one person.

WORD GUIDE

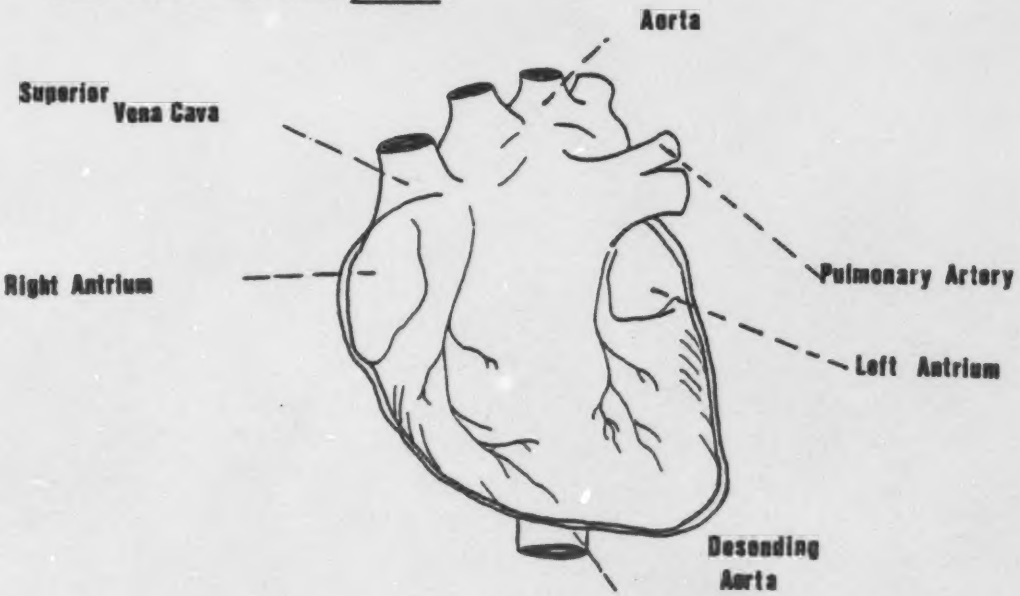
PULSE - The pressure of the blood felt against the walls of the arteries as the heart beats.

AORTA - The largest artery in the body; it carries blood to the trunk, head, and extremities.

EXTREMITIES - Arms, hands, feet, legs.

INFORMATION

Each time the heart beats, it pumps blood into an already full aorta. This generates a fluid wave through the arteries. That wave is the pulse.



When you "take a pulse", you are feeling that fluid wave and counting the number of times it happens in a given number of seconds.

A. Rate - How many pulses you count in a given time?

B. Rhythm - How regular is the pulse?

C. Character - How strong is the pulse?

WORD GUIDE

TACHYCARDIA - (TACK-EE-CARD-EE-AH) Faster than normal pulse.

BRADYCARDIA - (BRAID-EE-CARD-EE-AH) Slower than normal pulse.

DRUG INDUCED - Caused by medicine, either one that has been prescribed by a doctor to slow the pulse, or by an overdose of some other drug.

DIGITALIS - A medication given to slow down the heart.

INFORMATION

RATE

When you check the pulse rate, usually count for 30 seconds and multiply by 2. If the pulse is not regular, you should count for a full 60 seconds. Normal rate for an adult is 60 to 100 beats per 60 seconds. Women have slightly faster rate than men; children and infants have a faster rate than women.

Tachycardia may be present when the patient is experiencing pain, anger, fright, or has been exercising, has a fever, is anemic, is in shock, has a lack of oxygen, or heart faliure.

Bradycardia is not uncommon even in the healthiest athlete. A slower rate is cause for concern only when it is drug induced. Rate may be slower when too much digitalis is prescribed or with some form of drug abuse.

The following words describe the rhythm and character of a radial pulse:

IRREGULAR - uneven

BOUNDING - A pulse that slaps against your fingers and then immediately collapses.

WEAK - A pulse that is difficult to feel; it doesn't move against your fingertips with any force.

THREADY - A pulse that feels narrower.

The following diagrams illustrate the rhythem and character or a radial pulse.

INFORMATION

Regular Pulse and/or Normal Pulse:

Bounding Pulse:

Weak Pulse:

Thready Pulse:

Irregular Pulse:

INFORMATION

To record a pulse, you will write P = number of beats per minute. Be sure to multiply by two if you counted for only 30 seconds. Before you write anything on the patient's record, always write the date at the left hand margin of the record.

WORD GUIDE

PALPATE - Feel

JOB STEPS

1. Collect your materials.
2. Palpate the radial artery.

3. Using the pads of the first three fingers, press firmly against the radius.

4. When you feel the pulse beating, check to see if it seems regular, and if it is bounding, weak, thready, or normal.
5. Check your watch. Make a mental note of the second hand position.

JOB STEPS

6. Count the pulse beats for 30 seconds.

7. Release the patient's wrist.

8. Multiply by 2 the number you counted.

9. Record the result.

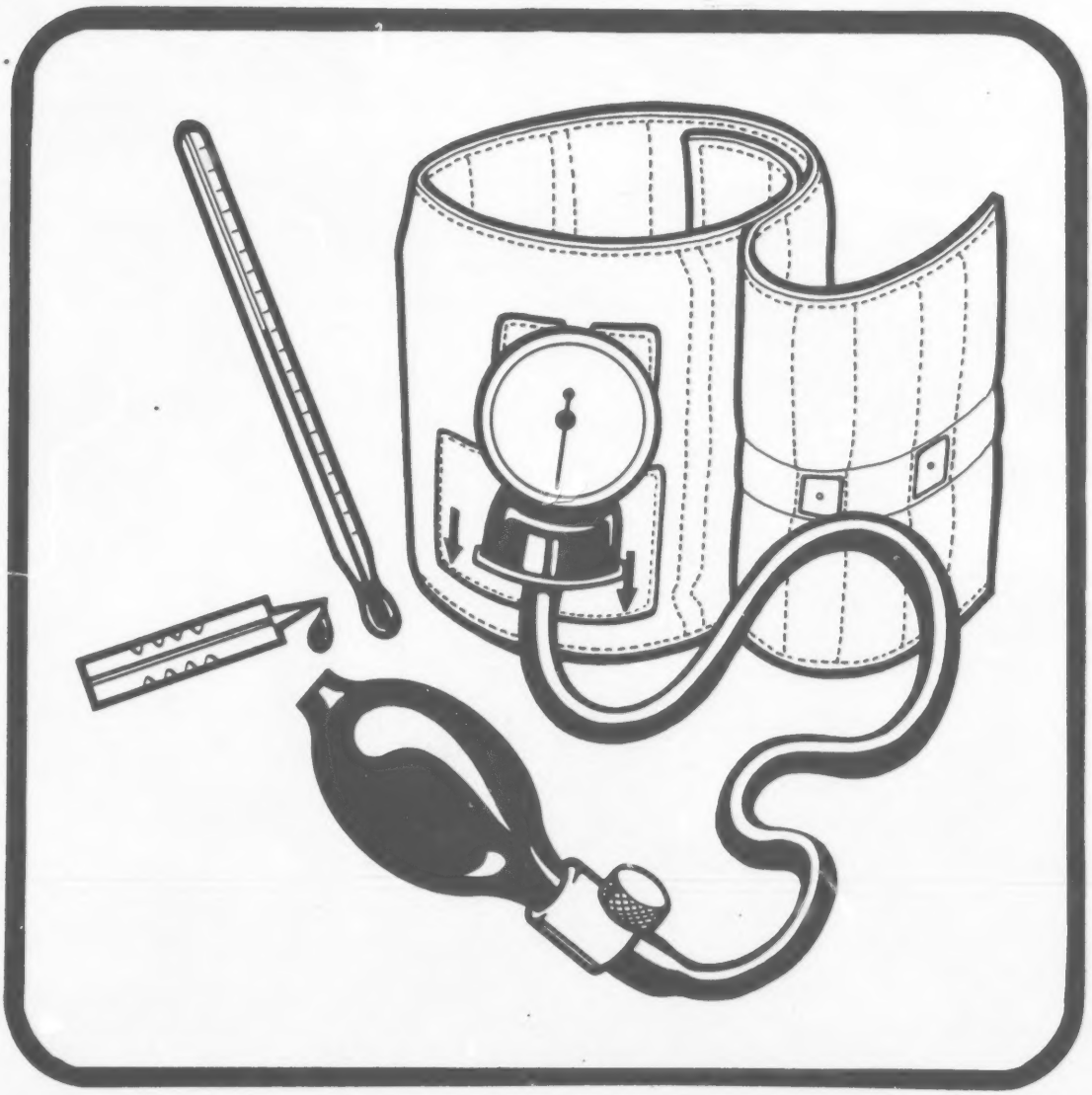
10. Practice the job steps 2 through 9 on several classmates.

11. Ask your instructor to check you. The instructor will count the pulse on one arm while you count on the other arm.

12. Be ready to discuss with your instructor the spelling and meaning of the words listed in the word lists and the information pages.

    The following is a list of the words you should know:

Radial	Tachycardia
Radius	Bradycardia
Pulse	Drug induced
Aorta	Irregular Pulse
Extremities	Normal Pulse rate
Rate	Bounding
Rhythem	Weak
Character	Thready



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 013 date: June 1977 level: I

skill title: How to Take a Respiration

developed & written by: Beverly Varney

visuals by: Sandra Gostomski

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to take a respiration.

IN ORDER TO DO THIS YOU WILL NEED:

A watch with second hand

Classmate to act as patient

Medical record

Pen

To have completed mod 4401 05 012

WE WILL KNOW YOU CAN DO IT WHEN:

1. You count the respirations so that the patient is not aware you are counting them.
2. You accurately count within two respirations.
3. You record the quality of breathing.
4. You can define the words in the word guide and the breath sound guide.

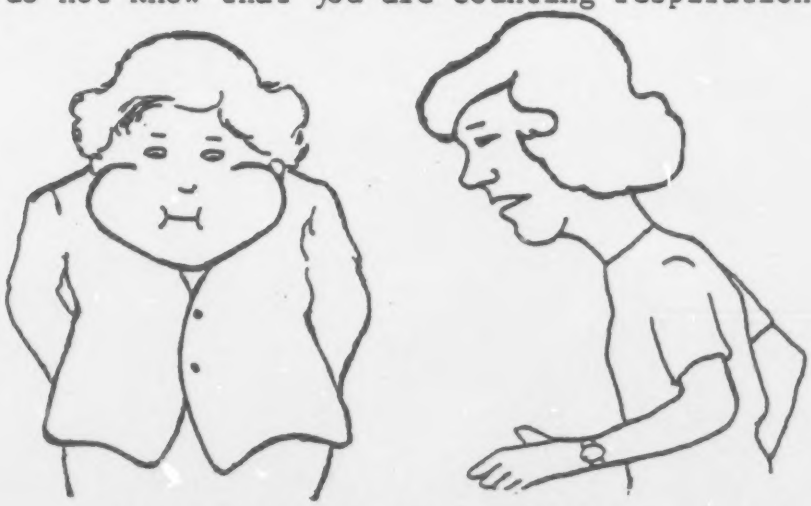
WORD GUIDE

INHALE - Breath in.

ASTHMA (AZ-MA) - and EMPHYSEMA (EM-FIH-SEE-MA) - diseases of the lungs.

INFORMATION

You must know how to take a radial pulse before you do respirations. Since it is important for the patient to breath naturally, pretend to take the patient's pulse. But instead, count the respirations. Patients will breathe more naturally if they do not know that you are counting respirations.



You must record the rate and quality:

Rate - The number of breaths per minute; in and out is one breath. Normal rate for adults is 12-18 per minute. It is higher in infants and children.

Quality - This includes depth, or the amount of air taken in and out. It is shallow or deep or does it just seem normal? Quality also involves noting any sound.

The sound of a person's breathing can indicate what is wrong with a patient. The sounds all have a particular name. The following is a list of the most common names:

1. Stertorous - (STIR-TORE-US) A snoring sound.
2. Stridor - (STRIDE-OR) A crowing sound when the patient inhales, common with croup or a foreign body in the throat.

INFORMATION

3. Wheeze - A high pitched, musical sound heard with asthma or emphysema.

4. Rales (RALS) and Ronchi (RON-KYE) - Rattling sounds usually heard only with the use of a stethoscope.

The rates of breathing have some special names. The following is a list of the most common names:

1. Tachypnea (TACK-IP-NEE-AH - Increased rate, more than 18 in adults or 25 in children.

2. Bradypnea (BRAID-IP-NEE-AH) - Slow rate, less than 18.

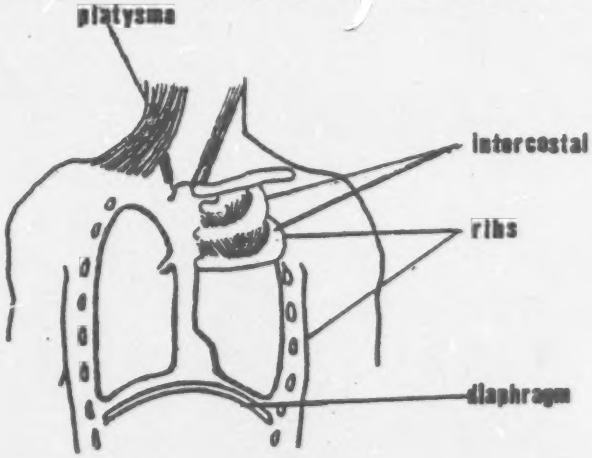
The depth of respirations also have some special names. The following is a list of the most common names:

1. Hyperpnea (HI-PERP-NEE-AH) - Increased depth of respiration.

2. Hypoventilation - Shallow, slow, and irregular breathing.

3. Hyperventilation - Deep and rapid respirations.

The diaphragm is the major muscle used for breathing.



If people experience difficult breathing or dyspnea (DISSP-NEE-AH), they will sometimes use the muscles between the ribs (intercostal) and the neck.

The movement of the chest and/or abdomen is what to watch for as you count respirations. Look at the following example. You

INFORMATION

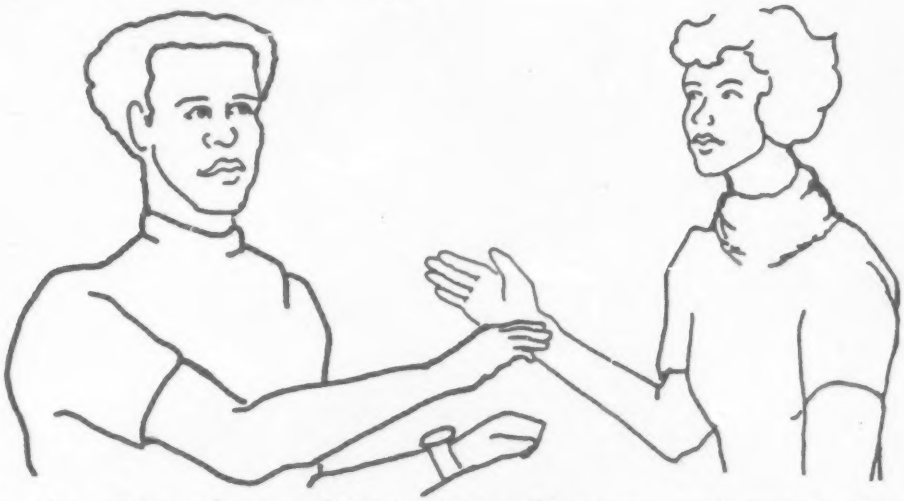
will record respirations like the example.

6/11/77 R-16 normal
6/11/77 R-27, shallow with stridor present

JOB STEPS

1. Collect your materials. Be sure to get the patient's record.

2. Palpate the radial artery.



3. Use the pads of the first three fingers and press firmly against the radius.

4. When you feel the pulse beating, count the pulse for 30 seconds. Be sure to remember the number of beats.

5. Keeping the same amount of pressure with your fingers on the wrist, focus your attention to the patient's chest and abdomen. The patient should not be aware of what you are doing.

   NOTE: Hold the patient's wrist in the hand you do not wear your watch. Then, hold your other arm, with the watch, at a spot where you can see both the watch and the

JOB STEPS

movement of the patient's chest or abdomen.

6. Check you watch. Make a mental note of the second hand position.

7. Count the respirations for 30 seconds. Be sure to remember The number.

8. Release the patient's wrist.

9. Multiply by two the number of pulses counted.

10. Multiply by two the number of respirations counted.

11. Record the pulse rates.

12. Be ready to discuss the words in the word guide and those listed in the information section of this mod.

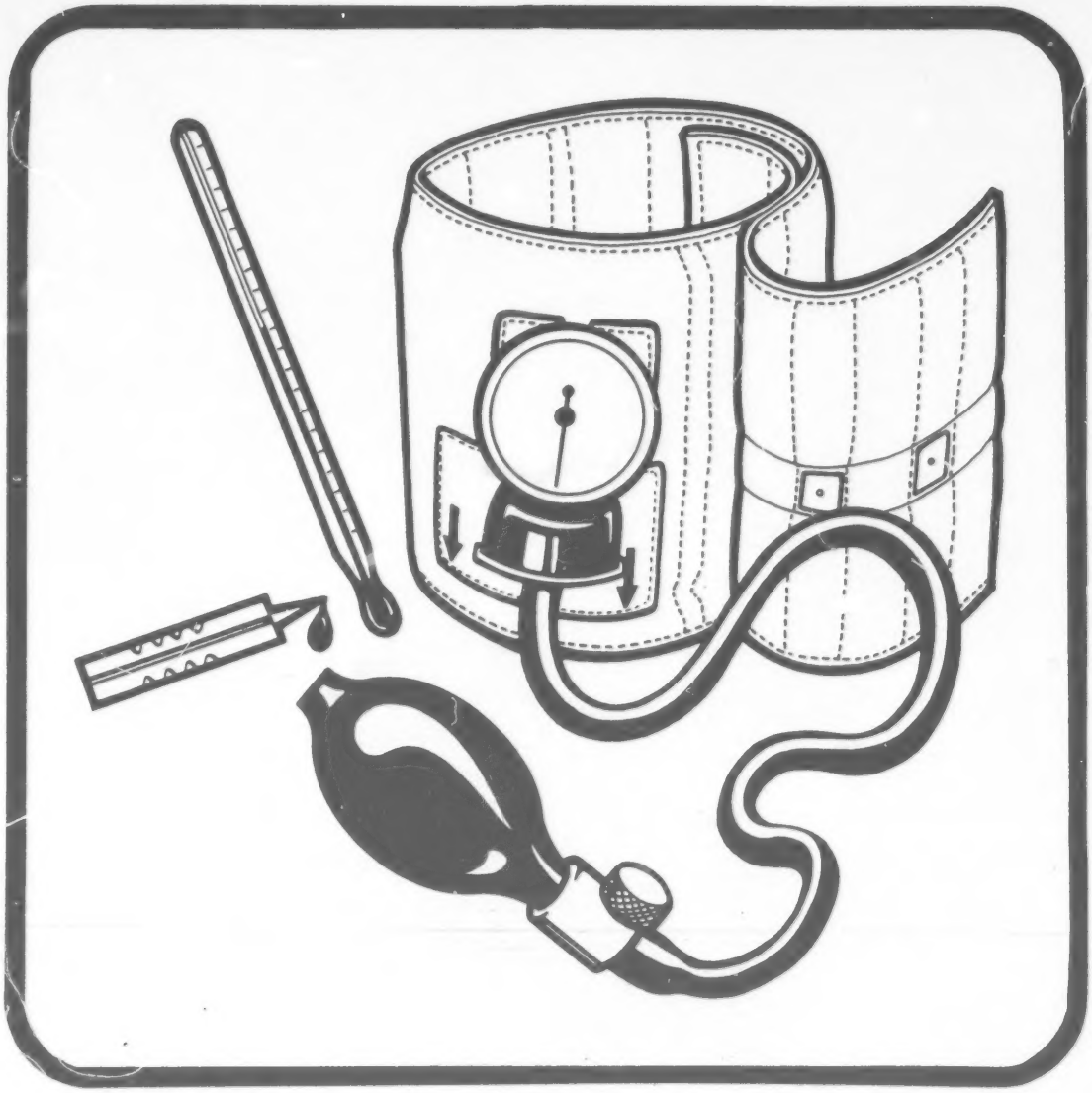
INSTRUCTOR'S PAGE

1. Observe student counting respirations, count with student. Passing is to be accurate within 2 respirations of the instructors count.

2. Check the recorded respirations for accuracy.

3. Have the student pronounce and define:

   Respiration
   Quality
   Rate
   Inhale
   Asthma
   Stertorous
   Stridor
   Dyspnea
   Rales
   Ronchi
   Tachypnea
   Bradypnea
   Hyperpnea
   Hypoventilation
   Hyperventilation
   Diaphragm



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 014 date: July 1977 level: II

skill title: Taking A Blood Pressure

developed & written by: Beverly Varney

visuals by: Mary Ann Gamel

WORD GUIDE

BLOOD PRESSURE - The force of the blood against the walls of the arteries.

SPHYGMOMANOMETER - The instrument used to measure blood pressure.

STETHOSCOPE - The instrument used for auscultation (listening) in examinations.

SYSTOLIC - The arterial pressure at the contraction stage of the heartbeat.

DIASTOLIC - The arterial pressure at the relaxation stage of the heartbeat.

MM - Millimeter.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

1. What blood pressure is.
2. How to take a patient's blood pressure.
3. How to record a patient's blood pressure.

AND IN ORDER TO DO THIS YOU WILL NEED:

A classmate to act as a patient

A sphygmomanometer

A stethoscope

Patient's record

The slide tape on taking a patient's blood pressure

WE WILL KNOW YOU CAN DO IT WHEN:

1. The practice patient understands the procedure you have explained.
2. You do not inflate the cuff more than 30 mm above the point where you last felt the radial pulse.

3. You hear the blood pressure with a 4 mm margin of accuracy.

4. You record the blood pressure as heard.

5. You can give a simple, brief explanation to the patient explaining what blood pressure is.

6. You know the upper limits for normal systolic and normal diastolic pressure.

7. You have used the appropriate cuff size.

WORD GUIDE

HYPERTENSION - Elevated.

W.H.O. - World Health Organization.

VEIN - A vessel which carries blood to the heart.

INFORMATION

Read this material:

Dienhart, Basic Human Anatomy and Physiology, "Blood Pressure", pages 107 (blood vessels) page 110 (veins); pages 114 and 115.

R.N. Magazine, "Goal 90 mm Hg.", May 1974, Volume 37, No. 5, pages 43-49.

Kozier-Dugas, Introduction to Patient Care, pages 86-88.

B. Bates, M.D., A Guide to a Physical Examination, pages 138-#6 to 140.

The World Health Organization defines hypertension as 160 systolic and/or 96 diastolic. This means that, any time the systolic is consistently above 160 and/or the diastolic is consistently above 96, that patient is considered to have hypertension. Anything below these numbers is considered to be within normal limits.

Now, before doing the Job Steps, watch the slide tape on "Taking a Patient's Blood Pressure".

WORD GUIDE

B.P. - Abbreviation for bloodpressure.

ANTECUBITAL - The inside of the arm at the bend of the elbow.

JOB STEPS

1. Wash your hands and bring the equipment to the patient.

2. Check the patient's chart for the last B.P. recorded. If this is a new patient the best way to determine which arm to use is to check B.P. in both arms and on return visits use the arm which had the highest B.P. If it is not a new patient you will use the arm which has been recorded before.

3. If the patient is wearing long sleeved or tight sleeved clothing have him remove his clothing from the arm you will be using. Drape the patient if necessary.

4. The patient should sit next to a table and rest his arm on the table. If seated on the exam table, you must support the arm by holding the patient's hand under your arm.

5. Choose the appropriate size cuff and wrap it smoothly and snugly around the arm. Place the center of the bladder of the cuff above the antecubital space and the bottom edge of the cuff one inch above the antecubital space.

WORD GUIDE

ARTERY - A vessel which carries blood away from the heart.

PALPATE - Feel.

JOB STEPS

6. Be sure the sphygmomanometer is on zero.

   NOTE: If you are using a mercury manometer be sure it is sitting on a level surface.

7. Close the valve on the bulb by turning it clockwise. It is not necessary to do this too firmly. Remember you want to be able to open it again with just your thumb and your forefinger.

8. Palpate the radial artery with your left hand. "Leftys" may use their right hand.

9. Keeping your fingers on the radial artery, squeeze the bulb and quickly inflate the cuff to 20 mm past where you feel the last radial pulse beat.

10. Turn the valve counterclockwise and allow the cuff to deflate. During deflation note the point at which the pulse returns. This is the estimated systolic.

11. Allow 30 seconds rest at zero pressure.

WORD GUIDE

BRACHIAL ARTERY - The artery which you can palpate in the antecubital space.

JOB STEPS

12. Put the stethoscope in your ears with the ear tips pointed forward. Place the diaphragm over the brachial artery.

NOTE: Steps 13, 14, and 15 should take you less time to do than to read! So, read them many times.

13. Quickly inflate the cuff (see step 7) to 30 mm past the estimated systolic.

14. Deflate the cuff (see step 10) at a rate of 2-3 mm per heart beat while listening for the first faint but clear tapping sound. This is the systolic pressure. Continue to deflate until the sound "muffles" or becomes less clear. This is the first diastolic. Continue to deflate until the sound disappears entirely. This is the second diastolic.

15. Open the valve all the way and allow the cuff to completely deflate.

16. Remove the cuff from the patients arm.

JOB STEPS

17. Record the pressure. If you heard the systolic at 136 and the first diastolic at 82 and the second diastolic at 68 you would record it this way, 136/82/68. You do not always hear a muffling (first diastolic) then you would only record 136/68.

18. Assist the patient with clothing, if necessary.

19. Answer these questions. Use a separate sheet of paper.

    1. What is systolic pressure the measure of? (In simple language).

    2. What is diastolic pressure the measure of?

    3. Is a B.P. of 200/86 considered hypertension? Should you recheck it? Why?

    4. Is a B.P. of 12[illegible]/98 considered hypertension? Why?

    5. Which is most serious 3 or 4?

    6. Would you ever use a pediatric cuff on an adult?

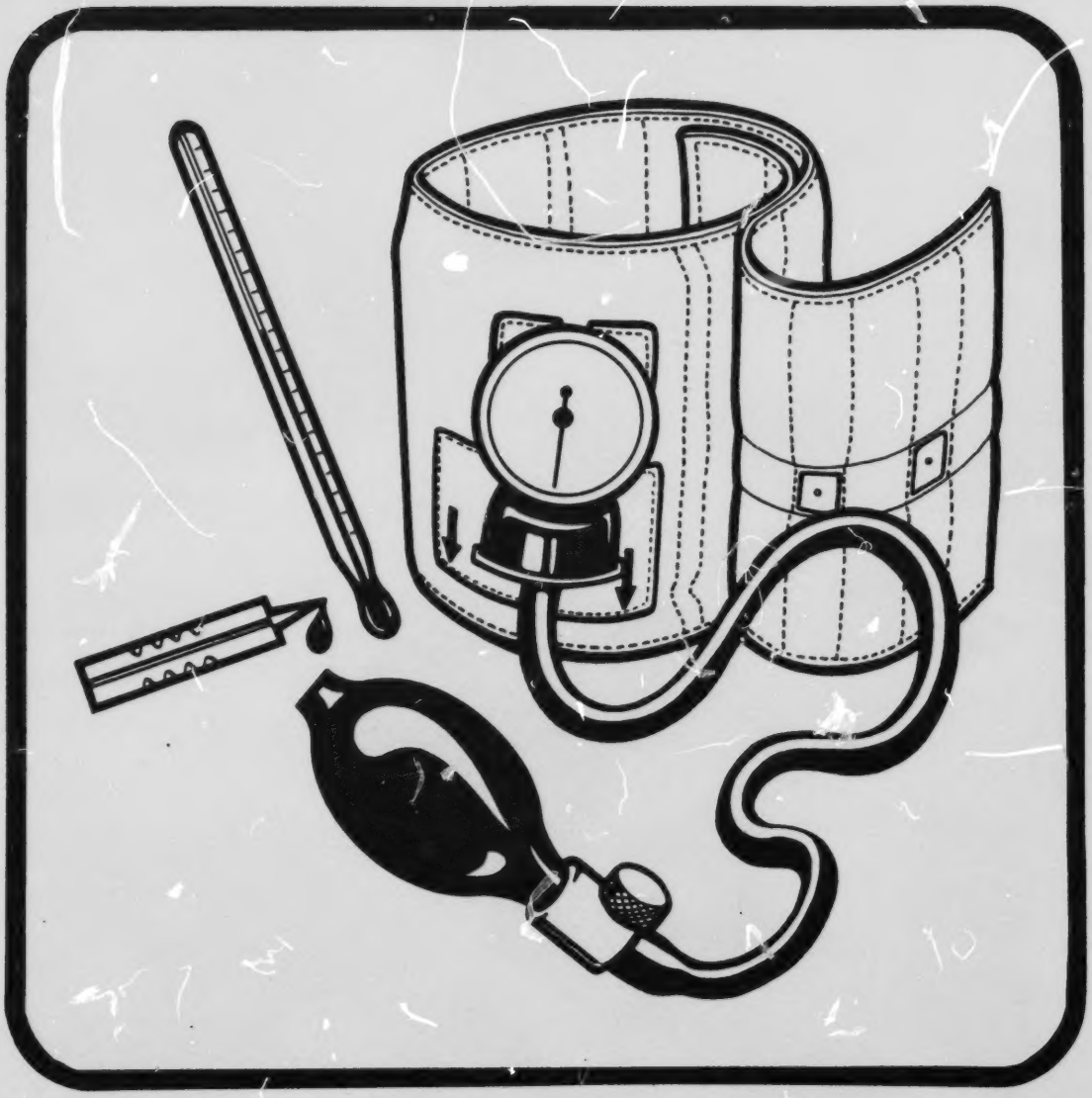
    7. Would you ever use a leg cuff on an arm?

    8. Why is cuff size important?

    9. When will you check the B.P. on both arms?

    If you cannot find answers to the above, be sure to discuss it with your instructor.

20. Practice these steps and show your instructor when you can do them well.



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 015 date: June 1977 level: III

skill title: How to Assist the Doctor With a Physical Exam

developed & written by: Beverly Varney

visuals by: Mary Ann Gamel

PERFORMANCE OBJECTIVE

You are going to learn:

How to assist the doctor with a physical exam.

And in order to do this you will need:

A classmate to act as the patient who has been positioned and draped for the exam.

An examination room set up for a physical exam.

Your instructor or a classmate to play the role of the doctor.

We will know you can do this when:

1. You can name and define the four methods used in examining a patient.

2. You can demonstrate the usual order for a physical examination by handing the doctor the correct instruments.

3. You can spell and define all of the words in the word guide.

WORD GUIDE

PATIENT RECORD - A chart of form used for writing all personal information.

PATIENT ACCOUNT RECORD - The chart or form used for keeping track of all the charges and payments for each patient.

PULSE - A count of how many times the heart beats per minute.

RESPIRATION - A count of how many times the patient breathes per minute.

BLOOD PRESSURE - The measurement of the force of the blood against the walls of the arteries.

HEMOGLOBIN (hee-mow-glow-bin) - A blood test.

INFORMATION

The Complete Physical Examination

In most doctors' offices, the Medical Assistant is responsible for doing parts of a complete physical examination.

If the patient has not been seen by your doctor before, as a Medical Assistant, you will probably do the following:

1. Fill out a patient record.
2. Make out a patient account record (do this for every patient who has complete physical exam).
3. Usher the patient to a room.
4. Collect and test a urine specimen.
5. Have the patient undress and drape him/her according to the type of examination.
6. Take the patient's temperature, pulse, respiration, and blood pressure.
7. Do a hemoglobin and/or any other indicated blood tests.
8. Make the patient comfortable as he/she waits for the doctor.

WORD GUIDE

LYMPH NODES - Small glands of the lymphatic system. When swollen they are called the "nodes".

THYROID - A large gland in the neck.

OTOSCOPE - An instrument used for looking in the ear.

NASAL SPECULUM - An instrument used for looking in the nose.

OPHTHALMOSCOPE - An instrument used for looking in the eye.

PULMONARY - Referring to the lungs.

STETHOSCOPE - An instrument used for listening.

INFORMATION

The doctor will use four examination methods:

1. Inspection, or looking and observing.
2. Palpation (pal-pay-shun), or touching or feeling.
3. Percussion (per-cuh-shun), or tapping and thumping.
4. Auscultation (aw-skull-ta-shun), or listening.

The doctor will begin by inspecting (observing) the general physical and emotional state of the patient. She/he will probably do this as he/she talks with the patient. The doctor will observe the patient's posture, skin, and hair.

The examination usually begins with the head. The doctor will examine the scalp, palpate the neck for enlarged lymph nodes and enlarged thyroid gland; and inspect the ears, nose, mouth, throat, and eyes using the otoscope, tongue depressor, nasal speculum, and opthalmoscope.

The chest examination checks the pulmonary or lung. The doctor will use percussion (tapping) on the back to outline the borders of the lungs, and then, will use the stethoscope to listen to the lungs.

WORD GUIDE

CARDIAC - Referring to the heart.

AXILLA - (ax-ill-ah), referring to the armpit.

ABDOMEN - Referring to the belly.

NEUROLOGICAL - To do with the nerves.

GROIN - The place where the leg attaches to the body (to lower abdomen).

INGUINAL - In the area of the groin.

REFLEXES - An action caused by tapping on a nerve which cannot be controlled nor caused deliberately.

INFORMATION

The chest exam also checks the heart or cardiac. The outline of the heart is found by percussion of the chest. The ears are also checked by auscultation with the stethoscope. This tells the rate, rhythm, and any abnormalities such as murmurs.

The doctor will examine the abdomen by inspection, palpation, and auscultation. Percussion is sometimes used. Sometimes, the doctor will use the handle of the percussion hammer to test the neurological reflexes of the abdomen. He/she will also palpate the groin for enlarged inguinal lymph nodes.

If the patient is a female, the doctor will examine the breasts at this point by palpating for lumps or irregularities. She/he will inspect for any abnormal discharge from the nipple. In either sex patient, he/she will also palpate the axilla for enlarged lymph nodes.

The doctor will need the reflex hammer for examining the arms and legs for reflexes. General muscle strength will be tested by having the patient grip the physician's hand or push against the hand, etc. Another test is R.O.M., or range of motion. That means the doctor will see if the patient can move his or her arms and legs normally without discomfort.

WORD GUIDE

DISORDER - Something that is not normal.

SENSATION - Feeling.

GENITALIA (jeh-ih-tail-ee-ah) - Sex organs.

RECTUM - The end of the bowel, where it opens to the outside.

RECTAL - Pertaining to the rectum.

PELVIS - Lower abdomen and female genital area.

VAGINAL SPECULUM - An instrument used to look into the vagina.

PAP SMEAR - A test for cancer.

INFORMATION

If there is any sign of neurological disorder, the doctor may want to use a safety pin or other sharp object to do further testing of sensation. Hot and cold objects are sometimes used.

If the patient is a male, and the Medical Assistant a female, the Medical Assistant should leave the room at this point so the doctor can examine the genitalia and rectum. The doctor will need a glove and a lubricant for the rectal exam. If the patient is a male and the Medical Assistant a male, the Medical Assistant may stay in the room to assist the doctor.

The physical exam for a female usually ends with a pelvic and rectal examination. The doctor will need a vaginal speculum, a glove, lubricating jelly and a good light. She/he may also want the equipment to do a Pap Smear. The Medical Assistant should assist the patient into the position and drape the patient. The Medical Assistant stays in the room during the entire physical exam of a female and must be present during the pelvic exam, unless the Medical Assistant is a male. Then, he must leave the room during this part of the exam.

When the exam is finished, remove soiled equipment, instruct the patient to get dressed, tell the patient the doctor will return to discuss the exam when the patient is dressed.

INFORMATION

Read chapter I of A Guide To Physical Examination by Barbara Bates, M.D. The colums on the right side of the page indicate what position the patient should be in for each part of the exam.

Look at the pictures on pages 228, 229, 231, 235, 237, 286, and 293. These give you a good idea of some of the R.O.M. and reflex tests the doctor will do.

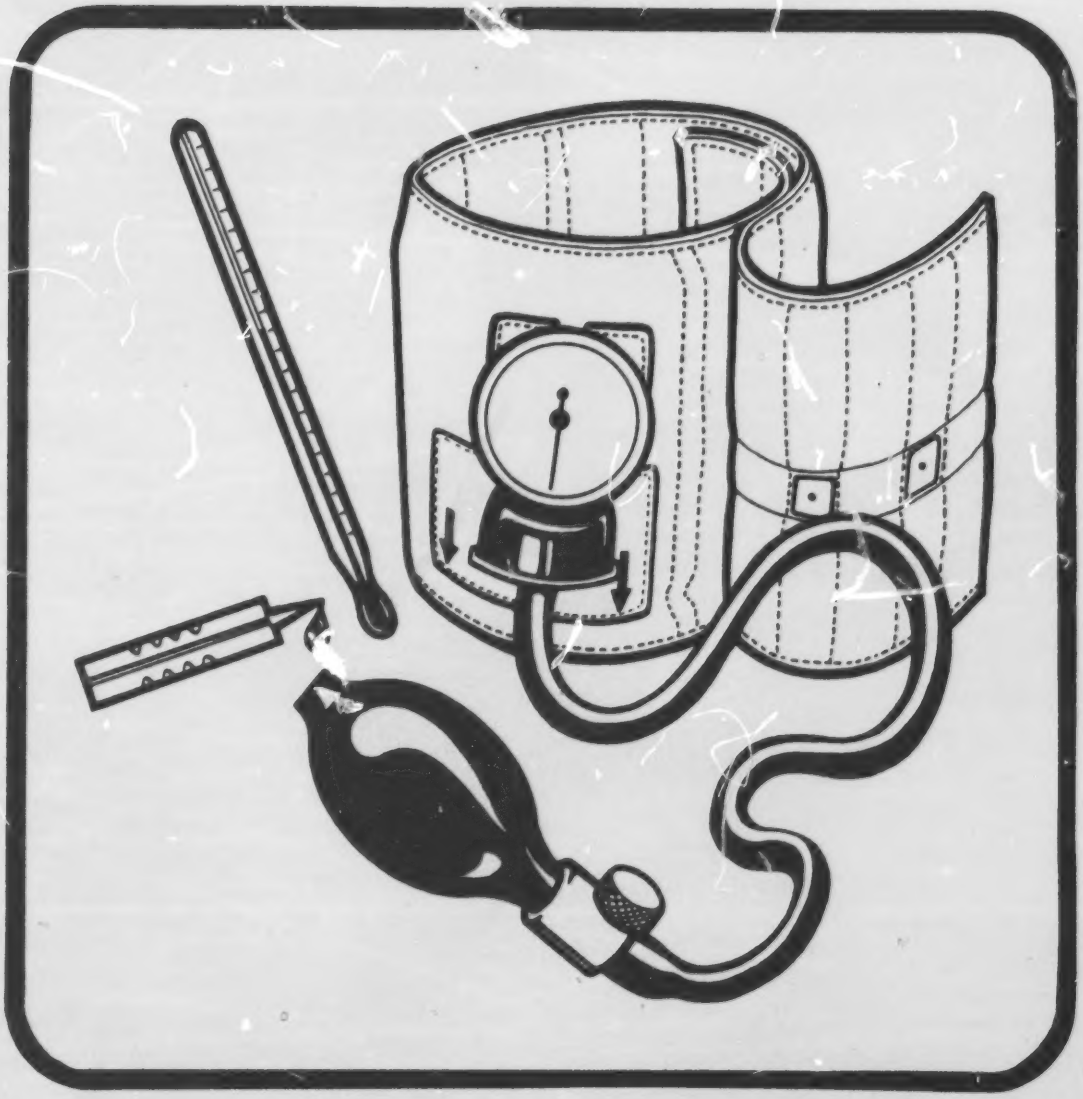
JOB STEPS

To pass this mod you must:

1. Role-play a complete physical exam with a classmate for your patient and you instructor as the doctor.

2. Be prepared to define and spell all of the words in the word guide.

3. Be able to name, spell and pronounce the four methods of examination and give examples of each.



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 016 date: April 1977 level: II

skill title: How to Clean Up After a Physical Examination

developed & written by: Beverly Varney

visuals by: Mary Ann Gamel

WORD GUIDE

STETHOSCOPE (steh-theh-skope) - An instrument used for listening.

TUNING FORK (toon-ing fourk) - An instrument used to check hearing by bone conduction of sound.

REFLEX HAMMER - An instrument used to check reaction to pressure on certain body points.

NASAL SPECULUM (nay-zahl speck-you-lum) - An instrument used to look into the nose.

PERFORMANCE OBJECTIVE

You are going to learn:

How to clean up the room and the equipment used after a physical examination.

And in order to do this you will need:

A room which has been used for a physical examination

Soiled sheets

Towels

Stethoscope

Tuning fork

Reflex hammer

Nasal speculum

Alcohol

Cotton balls

Flashlight

Tongue depressor

Cotton dipped applicator

Measuring tape

Thermometer

Examination table

Pillow

Soap

Water

WORD GUIDE

OTOSCOPE (oh-toe-skope) - An instrument used to look into the ear.

OPHTHALMOSCOPE (off-thal-moe-skope) - An instrument used to look into the eye.

SPHYGMOMANOMETER (sfig-moe-man-ah-meter) - An instrument to measure blood pressure.

K-Y JELLY - A kind of lubricant.

Otoscope	Cold sterilization solution
Ophthalmoscope	Clean paper exam towel
sphygmomanometer	Clean paper exam sheets
K-Y jelly	

We will know you can do it when:

1. You put soiled sheets and towels in the laundry or throw them away.
2. You clean the non-disposable equipment and then, store it for later use.
3. You throw away the disposable equipment.
4. You can pronounce and spell the names of the equipment used.

INFORMATION

Each time an examination is performed the examination room and all of the equipment used must be cleaned for the next patient. The following list tells you what you must do with each piece of equipment you have used.

Examination table:

A. Pull the paper cover toward the foot of the table and tear off the soiled portion.

B. Raise the head of the table and look at the roll of the paper to be sure there is enough for more exams.

C. Using soap and water, wash any soiled spots on the table upholstery.

D. Place the pillow back at the head of the table.

Pillow:

Change the pillow case if it is soiled. Place a clean paper exam towel on the pillow.

Stethoscope:

Wipe the ear pieces with an alcohol cotton ball. Return to storage place.

Tuning fork:

Return to its storage place.

Reflex hammer:

Return to its storage place.

Nasal speculum:

A. Wash with soap and cold water.

B. Autoclave, unwrapped, for 5 minutes, or;

C. Place in cold sterilization for 20 minutes.

D. Dry with a clean towel and return to storage space.

INFORMATION

Otoscope:

A. Turn it on to check batteries and bulb.

B. Wash soiled ear pieces with soap and water.

C. Return to its storage place.

D. Be sure to keep extra bulbs and batteries on hand.

Opthalmoscope:

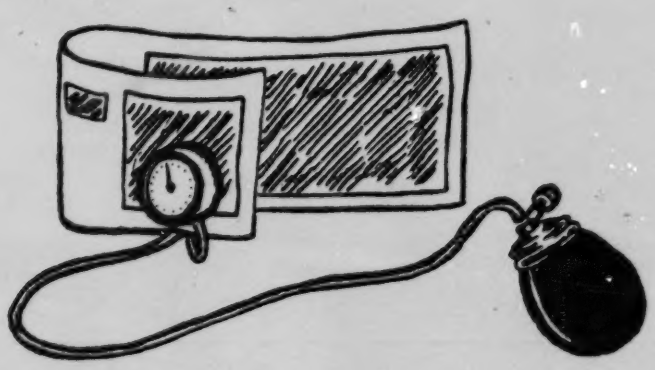
A. Be sure to keep extra bulbs and batteries on hand.

B. Return to storage place.

Sphygmomanometer:

A. Return to storage space.

B. You may need to replace the rubber squeeze bulb or the cloth cuff or tubing at some time. You will order these from your equipment supply salesman.



Flashlight:

A. Keep extra bulbs and batteries on hand.

B. Return to storage place.

INFORMATION

Tongue depressors:

A. Throw away after used.

B. Be sure to have a supply of new ones on hand.

K-Y Jelly:

A. Replace cap and return to storage place.

B. Be sure to have extra tubes on hand.

Cotton tipped applicators:

A. Throw away after used.

B. Be sure to have a supply of new ones on hand.

Measuring tape:

Return to its storage space.

Thermometer:

A. Wash with cold water and soap.

B. Rinse with cold water

C. Place in cold sterilization for 20 minutes.

D. Rinse in cold water and dry.

E. Return to storage place.

F. Be sure to have an extra supply on hand.

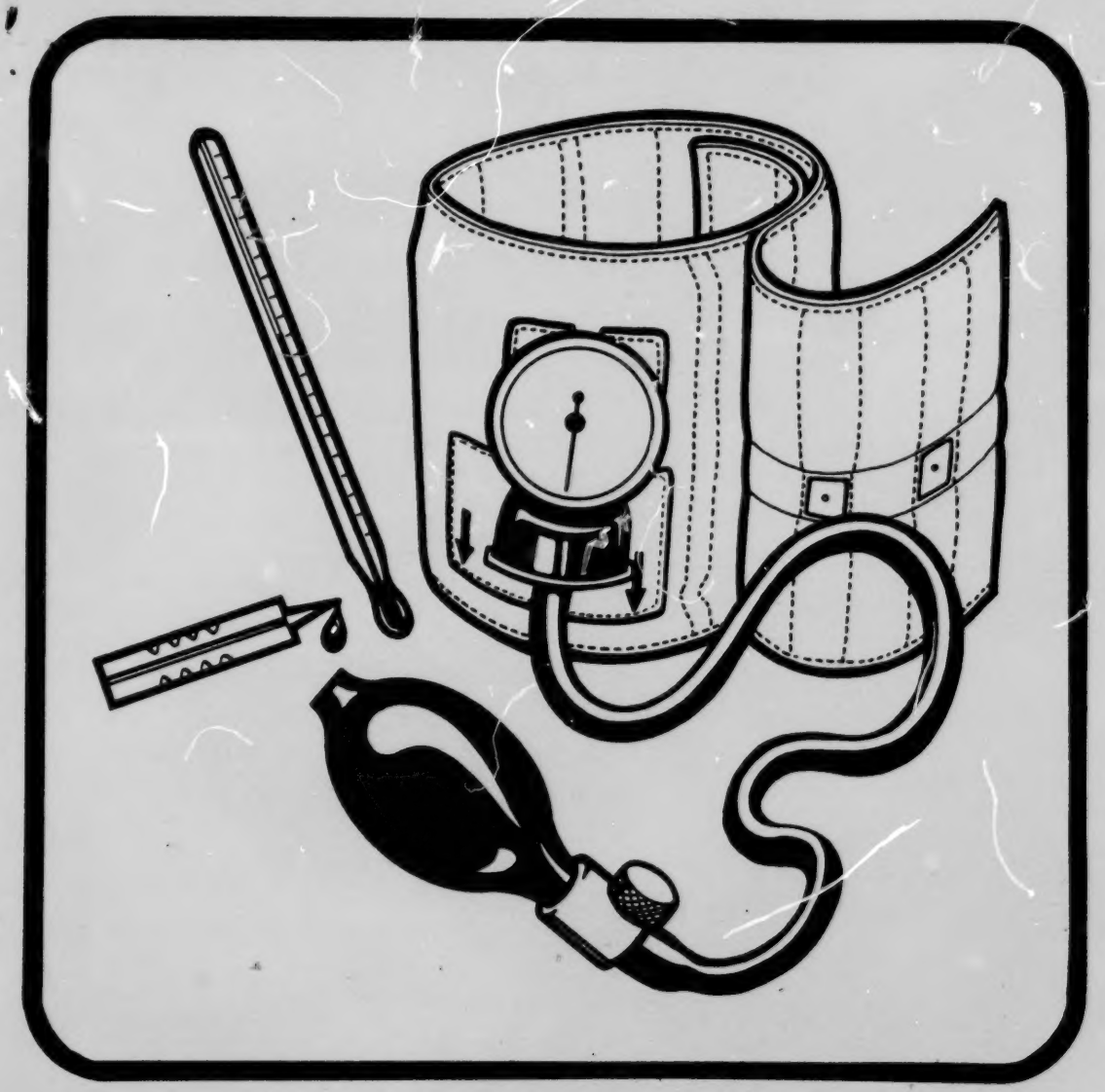
JOB STEPS

1. Plan to pass this module right after 4401 05 015. You will save some time since you will already have the equipment all out.

2. Clean and store all equipment you use. The necessary information is on pages 4, 5, and 6.

3. Be able to tell your instructor what extra equipment you should have on hand. This is indicated in the information section.

4. Be able to pronounce and spell the names of the equipment.



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 019 date: May 1977 level: II

skill title: How To Get The Equipment Ready And Set Up The Room For A Rectal Examination

developed & written by: Beverly Varney

visuals by: Mary Ann Gamel

WORD GUIDE

RECTAL EXAMINATION - To check the area of the body where the bowel opens to the outside.

SIGMOIDOSCOPE - (sig-moyd-oh-skope) - An instrument used to look inside the bowel.

SPECULUM - (speck-you-lum) - An instrument inserted into a body passage for inspection.

PERFORMANCE OBJECTIVE

You are going to learn:

How to set up equipment and room for a rectal examination.

And in order to do this you will need:

An exam table
A cart for instruments
A tray for soiled instruments
A rectal speculum
A sigmoidoscope
Cotton tipped applicators
2 plastic exam gloves
K-Y jelly
A goose-neck lamp
A stool for doctor to sit on
2 3" x 3" gauze squares

We will know that you can do it when:

1. You can set-up all the equipment
2. You can show how to clean the equipment.
3. You can tell how to maintain the equipment.
4. You can pronounce and define the words found in Word Guide.

1) rectum
2) anus
3) sigmoid
4) sigmoidoscope
5) inspection
6) palpation
7) speculum
8) stool
9) melena
10) hemorrhoid
11) polyp
12) diverticulum
13) occult blood
14) fecal material

WORD GUIDE

INSPECTION - (in-speck-shun) - Looking.

PALPATION - (pal-pay-shun) - Feeling.

ANUS - The outer opening of the rectum.

RECTUM - (reck-tum) - The part of the bowel closest to the outside.

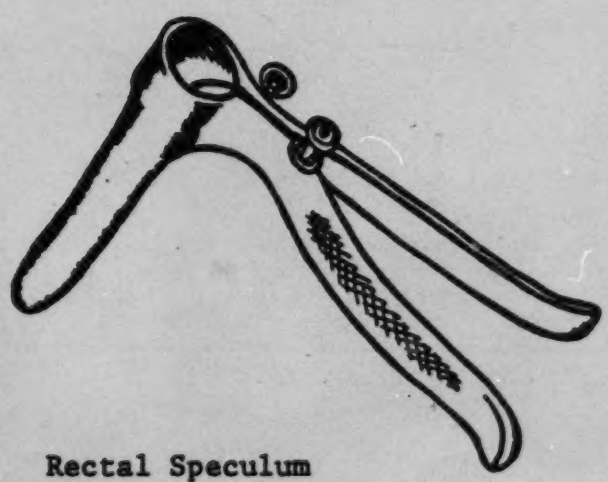
SIGMOIDOSCOPY - (sig-moyd-ah-skope-ee)

SIGMOID - (sig-moyd) - The part of the colon past the rectum.

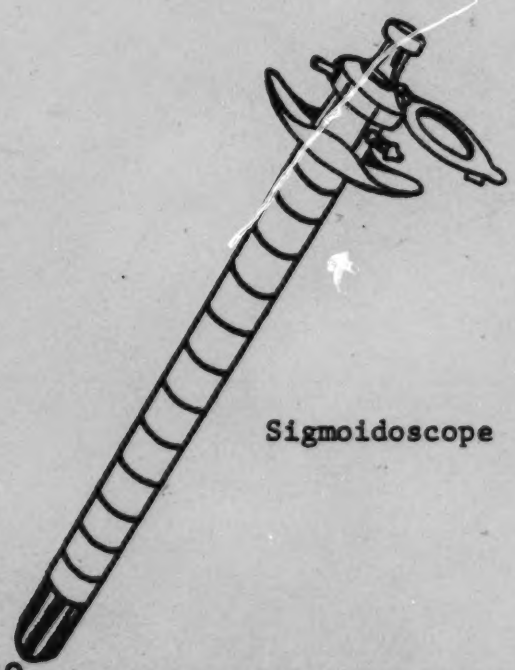
INFORMATION

A rectal examination may be part of a complete physical or a separate examination. The doctor will do the exam by inspection and palpation. He/she will first put on gloves and then look at the area around the anus. Using K-Y jelly, he/she will then lubricate the fingers on the glove and insert a finger into the rectum. If the doctor wants to look inside the rectum, he/she will lubricate the rectal speculum and then, insert it through the anus. You will need to adjust the light so that it shines into the speculum.

Sometimes, the doctor will examine a part of the bowel past the rectum. This is called the sigmoid colon and the exam is called sigmoidoscopy. For this exam, the doctor needs a special instrument called a sigmoidoscope.



Rectal Speculum



Sigmoidoscope

WORD GUIDE

STOOL - Another name for fecal material.

MELENA - (mel-en-ah) - Black stools or fecal material.

HEMORRHOID - (hem-royd) - An enlarged vein outside the anus or inside rectum.

POLYP - (poll-ip) - A small growth.

DIVERTICULUM - (dye-ver-tick-you-lum) - An abnormal pouch on the wall of the intestine.

OCCULT BLOOD - (oh-kult blud) - Old blood or hidden bleeding.

FECAL MATERIAL - (fee-kal) - Solid waste product from digested food.

INFORMATION

A rectal exam may be part of a complete physical or a separate exam. For the less complicated test, the doctor looks at the anus, inserts a lubricated gloved finger into the rectum and removes a tiny amount of fecal material to test for occult blood. The test indicates whether or not there is any bleeding from the stomach or intestine. When this test is positive, the doctor x-rays the stomach and bowel. Many times the doctor finds cancer or some other abnormal condition.

The patient may complain of melena blood in the stool, rectal bleeding or other abnormalities. From these symptoms, the doctor may suspect hemorrhoids, polyps, diverticulitis or cancer. The doctor will schedule the patient for a rectal examination which may include a sigmoidoscopy. The patient will require special preparation indicated in your next mod.

Read the following pages. They contain more information and pictures of what has been discussed.

A Guide To Physical Examination by Barbara Bates, M.D., pp 205-209.

When the doctor completes the exam, throw away all used disposable gloves, gauze squares, paper tissues and cotton tipped applicators. The rectal speculum and the sigmoidoscope should be washed in soap and water and then autoclaved. Do not wash the cord in soap and water. If necessary, wipe off cord with an alcohol sponge. Do not put the fiber-optic light source in water. When necessary, clean it according to directions. If you have an older model, which uses a light bulb, unscrew the bulb before autoclaving and then, place the bulb in cold sterilization solution.

JOB STEPS

1. Gather your equipment and go to exam area.

2. Lay all equipment on the cart according to the following diagram.

3. Facing the foot of table, place the goose neck lamp on the left side, near the foot of the table. Plug cord into the table.

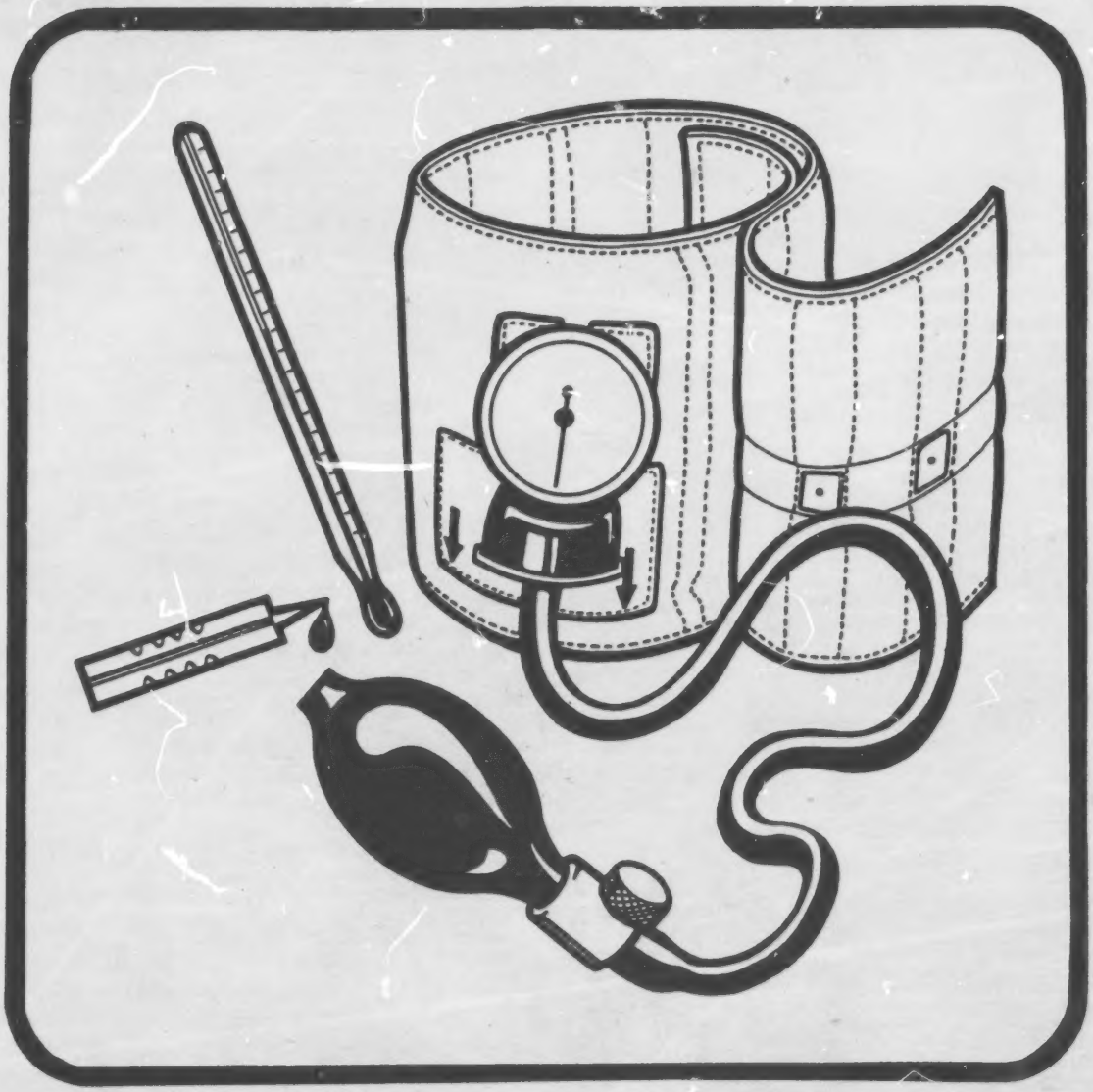
JOB STEPS

4. Place the doctor's stool near the foot of the table. See diagram.

5. After you completely set up a room for a rectal exam, you may get the patient ready.

   NOTE: You may be passed on this module now, or go on to 4401 05 020 and be passed on both modules at the same time.

6. When all equipment is sterilized, return it to it's proper storage place.



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 C5 020 date: May 1977 level: II

skill title: How to Get the Patient Ready for a Rectal Examination

developed & written by: Beverly Varney

visuals by: Mary Ann Gamel

WORD GUIDE

SIMS POSITION - Position of patient on table for a rectal exam. The patient lays on their left side with the left leg straight and the right knee up toward their chest.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to get the patient ready for a rectal examination.

IN ORDER TO DO THIS YOU WILL NEED:

A classmate to act as a patient

An exam table

A paper drape sheet

A lamp

A stool for the doctor

Paper tissues

WE WILL KNOW YOU CAN DO IT WHEN:

1. You instruct patient on how to prepare for the examination before coming to the doctor.
2. You tell the patient to empty bladder before the exam.
3. You assist the patient into Sims position.
4. You can pronounce and define words listed in word guide.

WORD GUIDE

INTESTINE - Bowel or "gut".

ENEMA (ehn-eh-mah) - A fluid put into the rectum to force the passage of fecal material.

LAXATIVE - A medicine taken to make the bowels move.

INFORMATION

Complete mod 4401 05 019 before you begin this mod.

In order for the doctor to use the rectal speculum and/or the sigmoidoscope, the patient must not have fecal material, or stool, in that part of the intestine. You must schedule the exam a couple of days (at least) ahead of your instructions to the patient. Instruct patient to:

1. Eat lightly for two days before the exam.
2. Take a laxative the day before the exam.
3. Take an enema the night before and the morning of the exam. Not all doctors follow the same routine, so check with the doctor for specific orders.

There are many kinds of prepared enema kits you may tell the patient to get. One of the most common is "Fleets".

WORD GUIDE

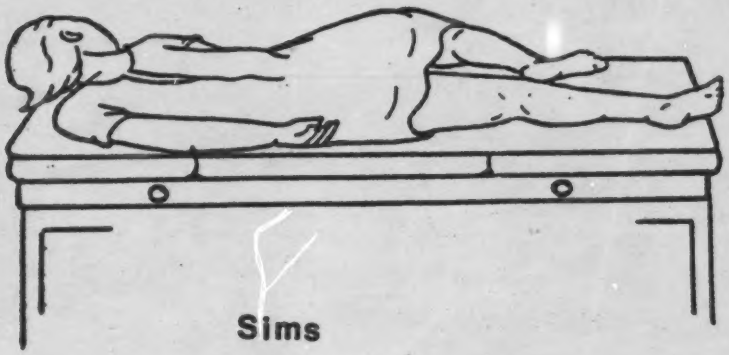
PROCTOLOGY - branch of medicine dealing with disease of the rectum.

INFORMATION

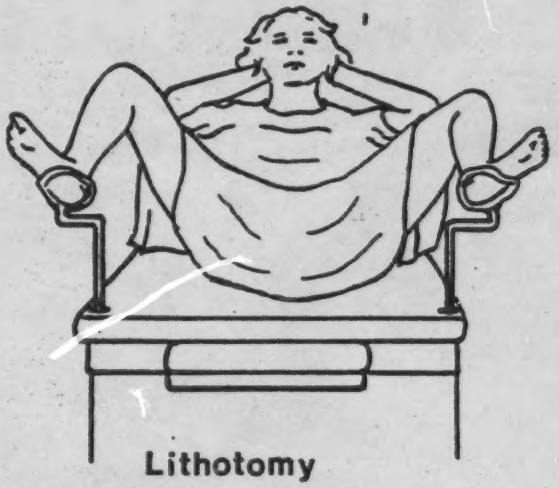
Honestly tell the patient that an enema is the most unpleasant part of the exam, but in the hands of a skilled doctor, the sigmoidoscope is (quickly and painlessly) passed in and out.

Some patients will appear to be nervous. They fear the test will indicate cancer. Reassure the patient that cancer is not always found in this kind of exam. Also, remind the patient that cancer, which is found early, usually can be treated.

Not all doctors will use Sims position. The following pictures illustrate the positions for a rectal exam. Some doctors who specialize in proctology have a special table that bends in the Jacknife position.



Sims



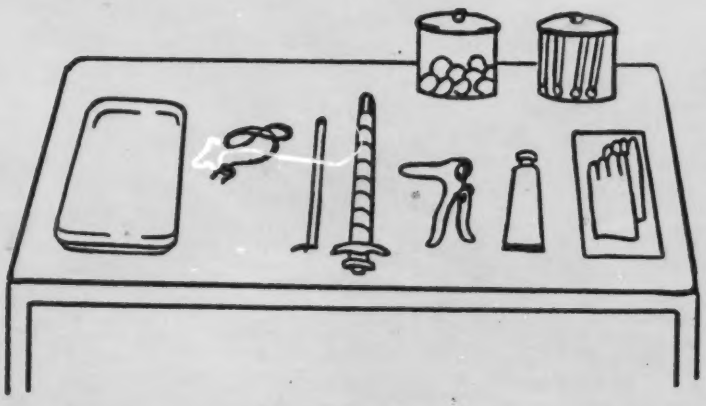
Lithotomy

Jacknife

JOB STEPS

1. Ask instructor to listen as you instruct the patient on how to prepare at home for the exam.

2. Collect your equipment and then, set up the room for a rectal exam as you learned in mod 4401 05 019.



3. Greet the patient. Direct patient to the bathroom and have them empty their bladder.

4. Give the patient the paper exam sheet and tell them to undress from the waist down. Then, tell them to sit on the table and place the sheet over their lap.

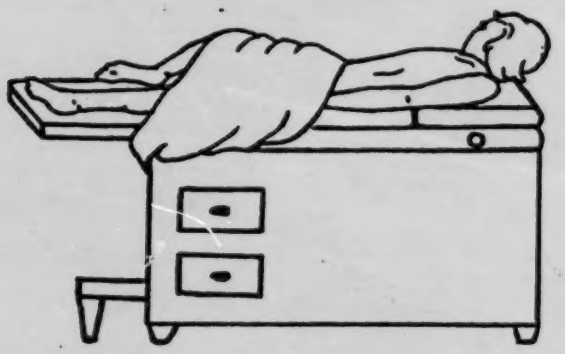
JOB STEPS

5. Leave the room. Return after you think the patient is undressed.

6. Pull out the leg-rest and ask the patient to lie on their back.

JOB STEPS

7. Instruct patient to lay on their left side with the left leg straight and the right knee pulled to their chest. Be sure the sheet does not fall off during this positioning.



NOTE: After you drape and place patient in the Sims position, the doctor will come in and put on the gloves.

8. Squeeze a small amount (about the size of a nickle) of K-Y Jelly on the doctor's gloved fingertips.

9. Position the lamp so it shines on the rectal area.

10. Be ready to hand the doctor any equipment he asks for, such as cotton tipped applicator.

11. When the doctor finishes, assist the patient to a sitting position.

JOB STEPS

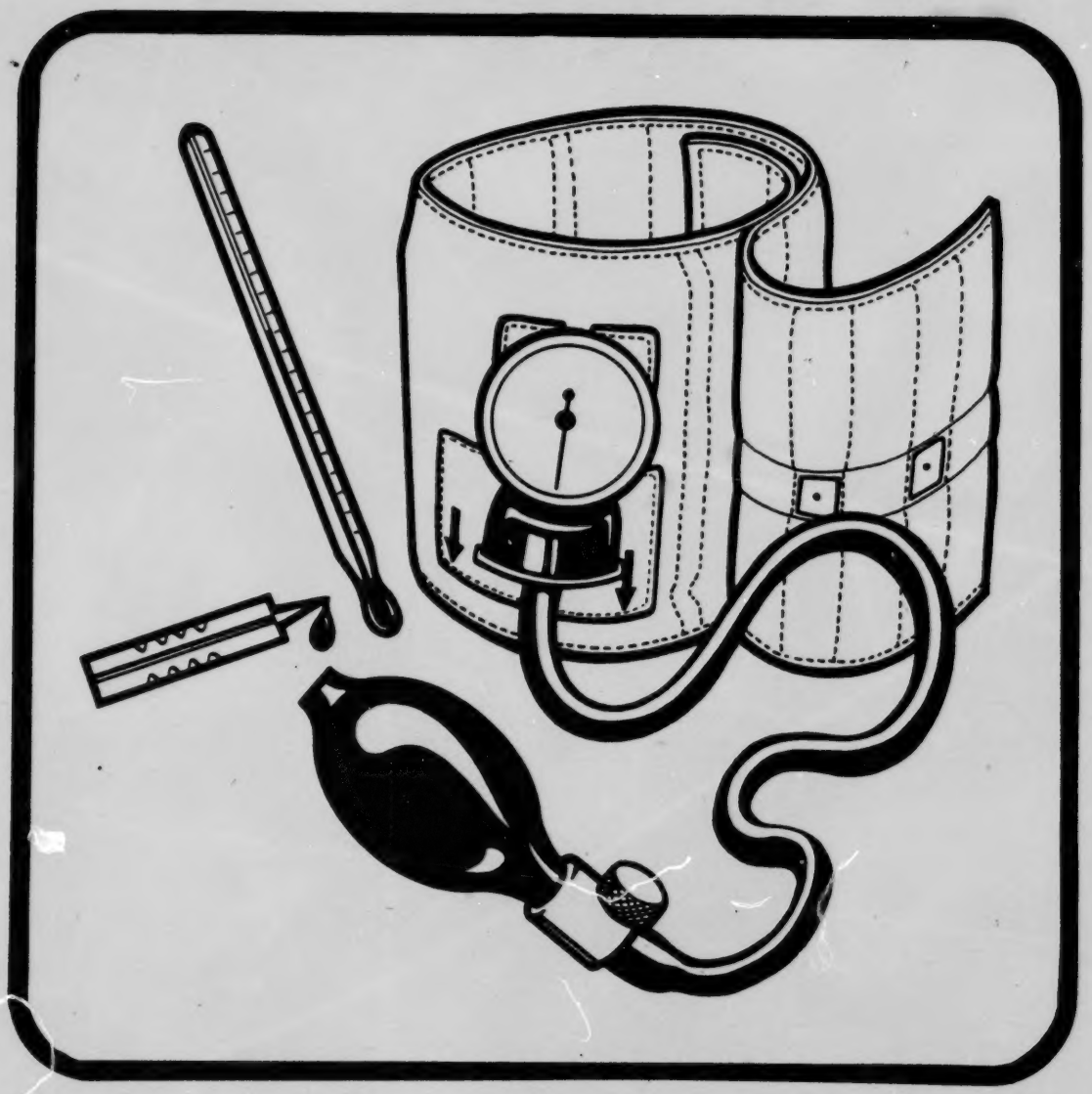
12. Hand the patient paper tissues and tell them they can dress.

13. Take the soiled equipment and leave the room.

14. Place the soiled equipment in soapy, cold water as instructed in 4401 05 019.

15. Return to the patient. If the patient is sitting in a chair, change the paper on the examining table. Then, throw soiled exam paper and drape sheet into the waste basket.

16. Complete cleaning and sterilizing the exam room. Store the equipment as instructed in mod 4401 05 019.



medical assistant

unit: MEDICAL ASSISTANT

capital area career center

module: 4401 05 021 date: April 1977 level: II

skill title: How To Set Up The Room For A Pelvic Examination

developed & written by: Judy Haga

visuals by: Mary Gamel

WORD GUIDE

PELVIC EXAM - Examination by inspection (looking) and palpation (feeling) of the internal organs located in the female pelvis and the external genitalia.

STIRRUPS - Adjustable metal foot rests at the end of the exam table to aid in positioning the patient for vaginal exams.

SPECULUM - An instrument used to insert into the vagina canal and when opened allows the physician to see the wall of the vagina and the cervix.

PERFORMANCE OBJECTIVE

You are going to learn:

How to set up the room for a pelvic exam.

And in order to do this you will need:

- Examination table with stirrups
- Clean cover sheet for the table (usually paper)
- Clean drape sheet for the patient
- Vaginal speculums (small size for young adults)
- Waste basket
- Lubricant (K.Y. jelly)
- Rubber glove (usually non-sterile)
- Doctors sitting stool
- Goose necked lamp
- Standing tray

We will know you can do it when:

You demonstrate, for your instructor, the set up of the room with the equipment in place as described in this module.

WORD GUIDE

GYNECOLOGY - A specialty area concerned with the female reproductive organs.

INFORMATION

Textbook of Medical Surgical Nursing by Brenner - pp 585-606.

Basic Human Anatomy and Physiology by Dienhart - pp 213-224.

As you may know from your experience as a patient, the doctor's office is a busy place. Patient's appointments are usually scheduled only 15 minutes, or less, apart. Your skill in preparing the exam room with the necessary equipment will help to keep this schedule running smoothly. The patient will benefit when the needed supplies are close at hand by making the exam time as brief as possible.

The doctor expects and appreciates having the equipment ready. You will need to know the purpose of the pelvic exam and have the necessary supplies ready for different situations.

Most doctors or clinics have special exam rooms for gynecology exams. They contain the exam table with stirrups and all the other supplies you may need.

You should know where the supplies are stored in the exam room. On some occasions the doctor may ask for supplies that you did not plan to need. Your ability to locate what he/she needs quickly will make you a valued member of his/her team.

The exact positioning of the equipment will depend on the size of the exam room, the arrangement of the equipment, and the physician's preferences.

See illustration for a visual description of the set up of the exam room for a pelvic exam.

WORD GUIDE

GENITALIA (gin-eh-tall'-e-ya) - External reproductive organs including the labia minora, the labia majora, vaginal oriface and urinary meatus.

CERVIX (sir'-viks) - The neck of the uterus that extends into the internal vaginal area.

STERILE - Free of disease causing organisms.

INFORMATION

There may be several reasons for a pelvic exam. A routine exam would include a pap smear, visual exam of the external genitalia, internal exam of vaginal wall and cervix by means of the speculum and palpation of the pelvic region of the uterus, ovaries and fallopion tubes.

Reasons for pelvic exams may include unusual vaginal discharges, irregular bleeding, pelvic pain and to diagnose pregnancy. Abnormal vaginal discharges will usually be placed on culture plates or in culture tubes.

Sterile equipment, when needed, must never be placed on a non-sterile tray. If a sterile tray covering is not available, you should wait until the doctor is in the room and ready for the exam before opening the packages.

JOB STEPS

After checking the room for cleanliness, prepare the room as follows:

1. Put a clean cover sheet on exam table.

2. Set out a clean gown to be worn by the patient and drape sheet on the table.

3. Set physician's stool at the foot of the table.

4. Put the waste basket, if available, next to the physician's stool.

5. Place the goose neck lamp to one side of the foot of the table.

6. An exam tray with a clean cover, when available, is to be placed next to the physician's stool. (Often the equipment cabinet top will be used.)

JOB STEPS

7. On the exam tray place the following items:

   1. Non-sterile gloves
      (Sterile gloves will be needed on exams of vaginal bleeding during pregnancy.)

   2. Disposable speculum
      (Sterile speculum would be needed for exams of vaginal bleeding during pregnancy.)

   3. Lubricating jelly
      (K.Y. jelly)

   4. If needed, include pap smear equipment as in module 4401 07 015.

Answer the following questions to test yourself on this module and be prepared to answer these questions for your instructor.

1. Why is it necessary to have the room prepared before the patient enters?

2. What are some reasons for pelvic exams?

3. List the items that are placed on the exam tray.

4. When would sterile gloves and a sterile speculum be required for a pelvic exam?

5. Be able to spell these words:

genitalia	palpation
gynecology	vagina
cervix	speculum

See the next page to check your answers. If you have difficulty answering the questions reread the information and job step sheets.

You should now be ready to demonstrate the proper set-up of the exam room for a pelvic exam for your instructor and answer any of the above questions.

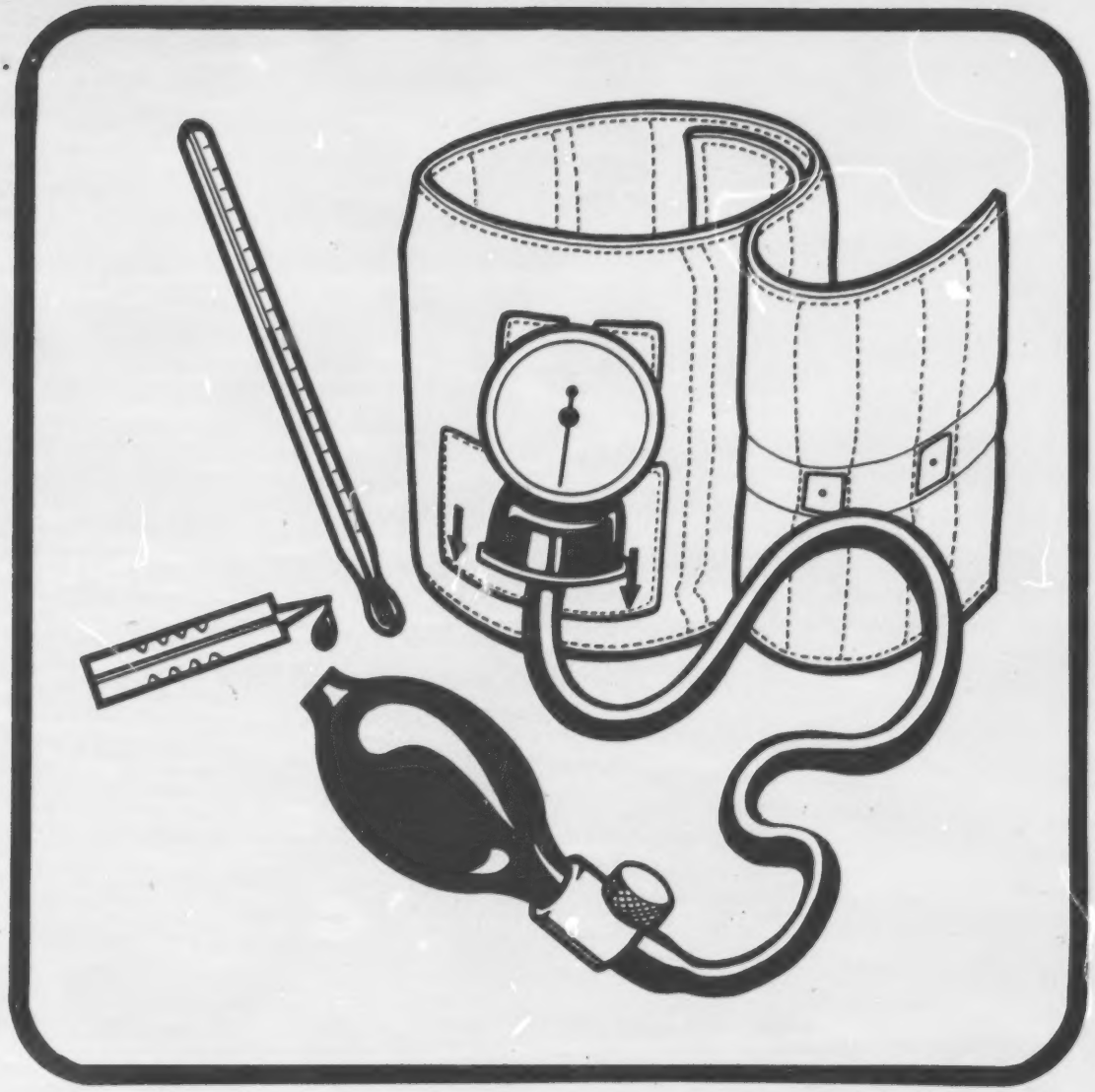
ANSWERS TO QUESTIONS

1. To aid in the efficiency of the appointment schedule. To benefit the patient by making the exam as brief as possible. To aid the doctor in making available to his/her reach, the needed equipment.

2. For routine pelvic exams including pap smears, when the patient is having unusual vaginal discharges, irregular vaginal bleeding or pain in pelvic area.

3. Cover sheet, speculum, gloves and lubricant. May also need pap stick, culture tubes and plates, sterile applicators and microscopic plates.

4. During exams for a pregnant patient having vaginal bleeding.



medical assistant

unit: MEDICAL ASSISTANT

capital area career center

module: 4401 05 022 date: April 1977 level: II

skill title: How To Get A Patient Ready For A Pelvic Examination

developed & written by: Judy Haga, RN

visuals by: Mary Ann Gamel

PERFORMANCE OBJECTIVE

You are going to learn:

How to get the patient ready for a pelvic examination.

And in order to do this you will need:

A classmate to act as a patient needing a pelvic examination.

A properly prepared exam room (see module 4401 05 021)

A urine specimen cup

A clean patient gown

A clean cover sheet to cover patient

We will know you can do it when:

1. The patient has emptied her bladder.
2. The patient has removed her clothing and is wearing a clean gown and is covered with a clean drape sheet.
3. You have reassured the patient if she is nervous and you have made sure she understands what to expect during pelvic exam.

WORD GUIDE

INCONTINENCE - Loss of bladder control.

PALPATION - To examine by feeling with the hands.

VOIDING - To get rid of solid or liquid body waste.

ABNORMALITIES - out of the usual.

INFORMATION

To help you understand what a physician does during a pelvic exam -- read the following assigned reading material:

A Guide to Physical Examination -- Bates, - pages 188-204.

Getting the patient ready for the pelvic exam gives you the opportunity to check the patient's state of relaxation. This may be the patient's first pelvic exam and you will need to explain the procedure before the exam. The patient should know what she is expected to do and what the physician will be doing. A calm, thoughtful and interested, yet matter-of-fact manner by the medical assistant helps to put the patient at ease.

The patient should know that the exam may be somewhat uncomfortable but not painful, unless disease makes it so. The patient should be encouraged to assist in making the exam effective and brief by breathing through the mouth in slow deep breaths which helps to relax the abdominal muscles.

Explain that voiding before the exam will make palpation easier and prevents any distortion in the position of pelvic organs. This also prevents bladder drainage and incontinence during the exam. Urine specimens are often saved if the patient complains of bladder symptoms, is pregnant and for routine exams.

You should try to develop trust with the patient during this preparation stage so that the patient will feel comfortable revealing any physical abnormalities that she may have that would limit her ability to assume the usual positioning. If so, check with the physician as to which position he feels is required for examination.

Assure her that her modesty will be maintained by proper draping and by keeping the exam room door closed. After instructing the patient to remove all clothing and providing her with a clean gown and cover sheet, leave the room so that the patient's modesty is respected while she undresses. Instruct her that you will return and will be present during the examination.

INFORMATION

It is generally best to have the patient remove all clothing since the doctor may decide to do a breast exam, especially for expected diagnosis of pregnancy and routine exams. Although it may not always be necessary, complete gowning will always have the patient prepared if the doctor decides to do this.

Go to the library and get a Dukane projector and the film strip "Basic Patient Care - Reproductive System." Ask for help to operate the projector; watch the film.

JOB STEPS

1. Instruct the patient to empty her bladder. Provide her with a urine specimen cup when it is required. When it is not required, direct her to the restroom.

2. Admit the patient to the exam room.

3. Instruct the patient to remove all her clothing and to put on the clean gown you have provided for her.

4. Leave the room while the patient is getting undressed and close the door.

5. Test yourself to see if you have mastered this module by practicing with a classmate. Your conversation during practice should simulate that of the real situation. Be friendly, warm and accepting and give the patient the opportunity to ask questions.

   Be prepared to answer these questions for your instructor:

   1. Why would you ask the patient to empty her bladder prior to the exam?

   2. What must you know before the patient voids?

   3. How much clothing should you ask the patient to remove and why?

   Check your answers on the last page. If you missed any, reread the information sheet.

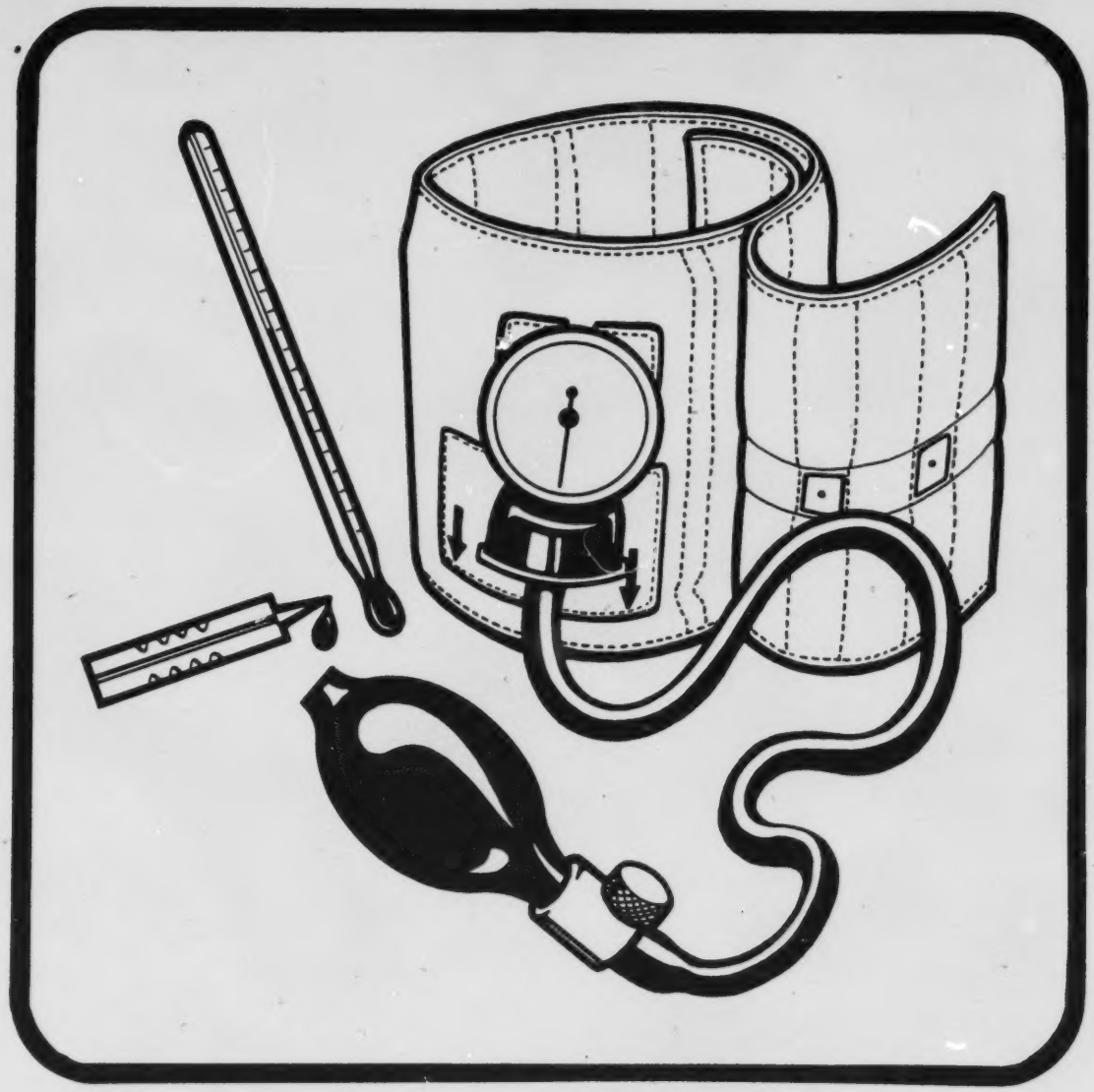
6. When you feel you have mastered this module, demonstrate this for the instructor and then proceed to the module on Draping and Positioning the Patient. (module 4401 05 003)

Answers to questions on page 5.

1. To make the patient more comfortable during the exam, to prevent incontinence during the exam and to make the internal organs easier for the physician to palpate.

2. Whether a urine specimen needs to be saved.

3. All of her clothing since the doctor may want to do a breast exam.



medical assistant

unit: MEDICAL ASSISTANT

capital area career center

module: 4401 05 023 date: March 1977 level: II

skill title: Draping and Positioning the Patient for a Pelvic Examination

developed & written by: Judy Haga, RN

visuals by: Mary Ann Gamel

WORD GUIDE

PERINEUM - The region between the vulva and anus in the female or between the scrotum and anus of the male.

ANUS - Rectal opening.

VULVA - Vaginal opening.

SCROTUM - Sac which holds the testicles.

TESTICLES - Male reproductive organ where sperm are produced.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to drape and position a female patient for a pelvic exam.

IN ORDER TO DO THIS YOU WILL NEED:

A patient in an examination gown

A covered examination table with stirrups

A large cover sheet to drape over the patient

A pillow

WE WILL KNOW YOU CAN DO IT WHEN:

1. The patient is properly positioned on the exam table with the perineum exposed.
2. The patient is comfortably and properly draped.
3. The patient is ready for the physician to start the exam.

LITHOTOMY POSITION - DORSAL RECUMBANT - DORSAL SACRAL - Different names for the same position. See illustration A.

SIMS POSITION - See illustration B.

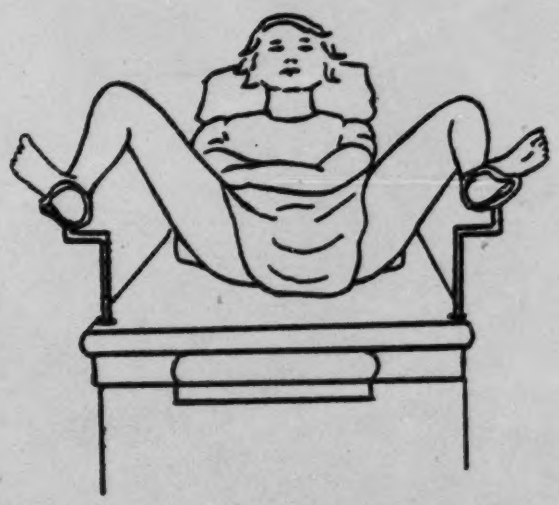
INFORMATION

READINGS: The Medical Assistant, Breadow and Cooper, 3rd. Edition, pgs. 63-65.

You may start with this module after successfully completing the modules on Preparing the Room for a Pelvic Exam; and Getting the Patient Ready for a Pelvic Exam.

Keep in mind patient safety and comfort while positioning the patient for the pelvic exam. You will need to be alert and actively participate while the patient gets into position. You can protect her from injury or muscle strain and help make her comfortable. The exam room door must be closed during positioning and while the patient waits for the doctor to enter the room.

Patients are usually placed in the lithotomy position (also called the dorsal recumbant or dorsal sacral positions). The patient lies on her back with the thighs flexed toward the abdomen and the lower legs flexed toward the thighs. The knees are separated and the heels rest in the stirrups.



LITHOTOMY POSITION
ILLUSTRATION A

SIMULTANEOUSLY - At the same time, together.

INFORMATION

Sometimes the dorsal position or the Sims position may be used. The physician will tell you if either of these are to be used.

SIMS POSITION

ILLUSTRATION B

A footstool may be provided to help the patient seat herself on the exam table. The patient should be guided onto the stool then, she should sit on the edge of the table and lie back. During any exam (and in particular with a pelvic exam) the patient's modesty must be considered. You can show your respect for her privacy by draping her perineum with a clean cover sheet while she is getting into position. You will be standing at the foot of the exam table to assist and to observe proper placement of the feet and buttocks. This can still be done properly while the patient is covered. The patient should put both legs into the stirrups at the same time. This is done gently to prevent muscle strain. Besides instruction, some women may need assistance while getting into position. If you are assisting the placement of her feet into the stirrups, remember to gently direct both feet simultaneously into the stirrups. The stirrups are usually moveable. They can be extended lengthwise and moved away from the side of the table for individual comfort. The patient must move her buttocks to the end of the table. For her safety, you will need to guide her.

INFORMATION

Separation of the knees is essential for exposing the perineum. This position is not necessarily comfortable and is often embarassing to many women. Therefore, you may remind the patient to relax her legs and let her knees fall away from each other during the exam. But, until the doctor enters, she may find it more comfortable to rest with her knees closer together.

Hands should be placed at the patient's side or across her abdomen. A pillow can be placed under her head. Once in position, women with back problems can be more comfortable if you place a folded or rolled sheet under the lower back. Ask the patient if she is comfortable. Make necessary adjustments.

After the patient is comfortably in position, spread the cover sheet up to the patient's chest and down to the knees, also covering the perineum. If possible, you should stay with the patient until the doctor enters for the exam.

WORD GUIDE

SUPINE - Lying on the back.

JOB STEPS

1. Check the desired position with the physician.

2. Wash your hands and be sure the door is closed.

3. Assist the patient onto the exam table, providing a step stool when available.

4. Instruct the patient to lie on her back for the lithotomy and supine position.

5. Cover the patient from the waist down with a clean cover sheet.

6. For the lithotomy position:

   a) Instruct and assist the patient while she places both feet into the stirrups. Adjust stirrups for her comfort.

   b) Instruct the patient to move her bottocks to the end of the table.

   c) Adjust the cover sheet to extend from the patient's waist to her knees. Keep the perineum covered until the doctor enters.

   d) Instruct the patient to place arms and hands at her sides or across her abdomen.

   e) Provide a pillow for head and neck support.

   f) Ask the patient if she is comfortable and make adjustments when necessary.

7. For the supine position:

   a) Cover the patient from breasts to the feet.

   b) Provide a pillow for head and neck support.

8. For the Sim's position: The patient will not use the sim's position until the doctor enters. Prepare the patient as you would for the supine position.

9. Stay with the patient until the doctor enters the exam room, and keep the door closed.

You should now be ready to answer the following questions for your instructor. Test yourself first and if necessary, reread the information sheet.

1. What are the two most important factors to consider during the positioning of a patient for a pelvic exam?

2. Why should both legs be placed into the stirrups simultaneously?

3. How can you show respect for the patient's privacy during this preparation stage?

4. What steps can you take to make the patient comfortable?

5. Why is it important to stay with the patient until the doctor enters?

Check your answers with those on the next page.

Answers for Test Questions.

1. The patient's safety and comfort.

2. To prevent strain on the abdominal muscles or leg muscles.

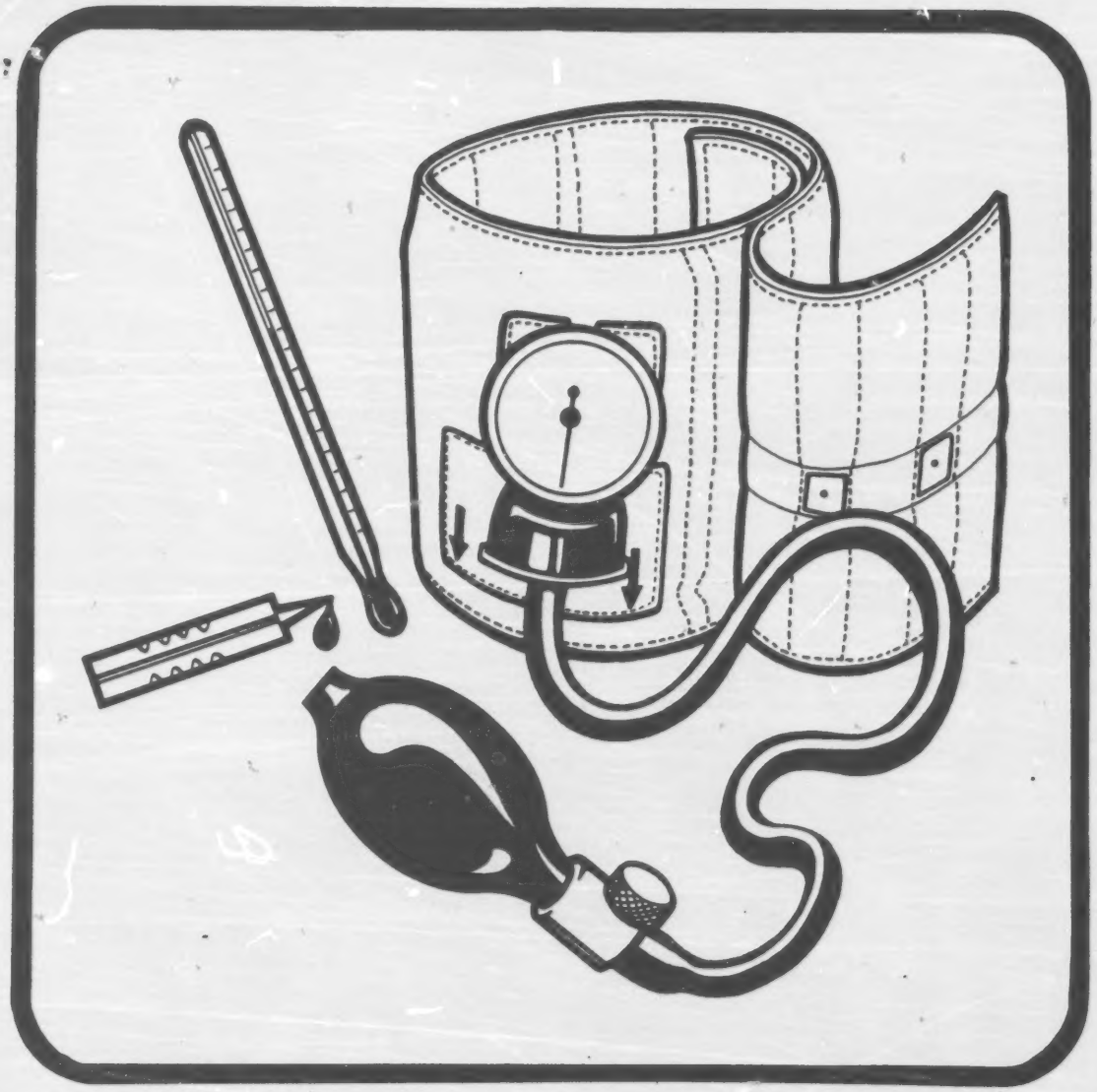
3. By draping the patient from the waist down with a cover sheet before positioning.

4. By providing a pillow for the head and neck, and offering patient's with back problems a folded sheet to support the lower back.

5. To protect her safety while in the lithotomy position and to help the patient feel more secure.

You should practice this module with a classmate before you demonstrate this procedure for your instructor. Your classmate does not need to undress and gown, but remember to drape her as if she were not fully clothed.

Have your instructor observe you when you feel you have mastered this module, and be prepared to answer the questions provided.



medical assistant

unit: MEDICAL ASSISTANT

capital area career center

module: 4401 05 024 date: April 1977 level: II

skill title: Assisting The Doctor With A Pelvic Examination

developed & written by: Judy Haga

visuals by:

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to assist the doctor with a pelvic examination.

AND IN ORDER TO DO THIS YOU WILL NEED:

A gowned patient draped and positioned for a pelvic examination

Your equipment in place and ready to use

A student to play the role of the examination doctor

Tissue for the patient's use

WE WILL KNOW YOU CAN DO IT WHEN:

1. Your equipment is complete and ready for use.
2. You remain in the room at all times during the examination.
3. The patient is assisted in preparing to leave after the examination.
4. The specimens are prepared to go to the laboratory.

INFORMATION

You must successfully complete the following three modules before proceeding:

Preparing the Room for a Pelvic Exam, 4401 05 021
Preparing the Patient for a Pelvic Exam, 4401 05 022
Draping and Positioning the Patient for a Pelvic Exam, 4401 05 023

Required Reading

Basic Human Anatomy and Physiology, Diehart, pgs. 213-222
A Guide to Physical Examination, Barbara Bates, pgs. 189 & 193

It is the medical assistant's responsibility to be present during the entire examination. This is for the protection of both patient and doctor. You should encourage the patient to relax and when necessary, assist the doctor.

If it is necessary to leave the room during the exam, leave the exam door open one or two inches.

After the doctor is seated on the exam stool, remind the patient to relax her knees so they fall away from one another. Adjust the light over the physician's shoulder so it illuminates the perineal structures.

WORD GUIDE

MOTILITY - Able to move.

CYTOLOGIC - The study of the structure and function of cells.

INFORMATION

The doctor will begin the exam with inspection and palpation of the external genitilia. He/she looks for signs of swelling, inflammation, dishcarge, bleeding, erosions, or any other skin changes.

The speculum examination may be omitted if the patient is a virgin, or else a very small speculum may be used. You can make insertion of the speculum more comfortable for the patient by warming it under warm running water.

NOTE: Do not do this for sterile speculums because tap water is not sterile and would contaminate the speculum.

Be ready to assist the doctor in applying lubricant to speculum.
Remember: Adjust the lamp as needed so the physician can observe the vaginal walls and cervix.

A digital exam then follows. For this, the doctor needs gloves and lubricating jelly. After placing one or two fingers into the vagina, he/she palpages the abdomen with the other hand. Check the patient's face for signs of tension. Encourage her to relax by breathing slowly and deeply through her mouth. With a digital exam, the doctor can usually detect abnormalities in the placement, contour, motility and tissue consistency of the base of the bladder, the uterus and the remaining sturctures.

Depending on the doctor and patient's needs, additional equipment may be needed. This equipment should be in the room.

Handle cultures carefully so that if there is a chance of infection, you do not infect yourself. Adjust the position of the standing tray and waste bucket for the doctor's convenience.

When handing the doctor sterile equipment such as applicators for cytologic specimens, wear sterile gloves and use sterile speculum to avoid contamination. Remember to use sterile techniques.

INFORMATION

Following the examination, you should provide the patient with tissue paper to remove any lubricant or discharge on the genitilia. When necessary, offer her a sanitary napkin.

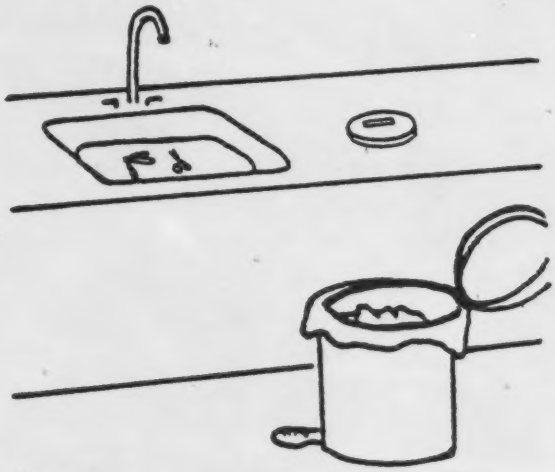
You should assist the patient out of the stirrups, moving both legs simutaneously.

Using a footstool, assist the patient off the table. If she appears shakey or weak, stay with her. With an elderly woman, the knee chest or lithotomy position may alter normal blood circulation enough to cause weakness. It may be necessary for her to rest supine for a short time before getting off the exam table. You may need to assist her in dressing.

You may explain anything the doctor said which seems unclear to the patient. Tell each patient that the doctor will wish to speak with her after she is dressed.

INFORMATION

Discard disposable equipment and wash reusable equipment with soap and water. Label laboratory specimens before taking them out of the exam room and prepare as needed.



After handling specimens and equipment, always wash your hands thoroughly.

When the patient finishes talking with the doctor you may again go over any questions she may have.

After the patient leaves the room, remove the used cover sheet from the table. If secretions have gone through the cover sheet onto the table, wash the table with warm soap and water. Place a clean cover sheet on the table. If the standing tray is soiled, you should wash this also with warm soap and water. Now inspect the room carefully to be sure it is clean. If you have touched contaiminated material, wash your hands and prepare for your next exam.

Practice the module with two classmates, one playing the role of the patient and the other that of doctor. When you feel you have mastered these skills, ask your instructor to observe you. Be prepared to answer the questions given.

WORD GUIDE

ILLUMINATE - To light up or brighten.

JOB STEPS

1. After doctor sits on the exam stool, arrange the light to illuminate the perineal floor.

2. Arrange standing tray and waste bucket so they are within easy reach for doctor.

3. Open sterile equipment and use sterile technique in handing to the doctor.

JOB STEPS

4. Encourage the patient to relax her knees so they fall away from one another and to breathe slowly through her mouth.

5. Assist the doctor whenever necessary.

6. Remain in the room during the exam and until the patient appears steady.

7. Provide tissue for the patient to remove secretions from genitilia.

8. Assist the patient out of the stirrups and off the exam table.

9. If necessary, help the patient dress. When she finishes, ask her to wait for the doctor.

JOB STEPS

10. Prepare and label laboratory specimens before removing from the exam room.

11. Clean or dispose of instruments as indicated.

12. Clarify instructions the patient did not understand.

13. After the patient leaves the room, use soap and water to clean the room and equipment, wherever necessary.

14. Place clean cover sheet on exam table.

Test yourself on the following questions. Be prepared to answer them for your instructor. If you have difficulty, re-read the information sheet.

1. Why is it necessary to remain in the exam room during the pelvic exam?

2. How can insertion of the speculum be made more comfortable for the patient?

3. Why should you prepare and label the laboratory specimens before taking them from the room?

4. Why must you wash your hands after handling specimens and equipment?

5. How often should you adjust the light for the doctor during the exam?

Check your answers on the following page.

Answers:

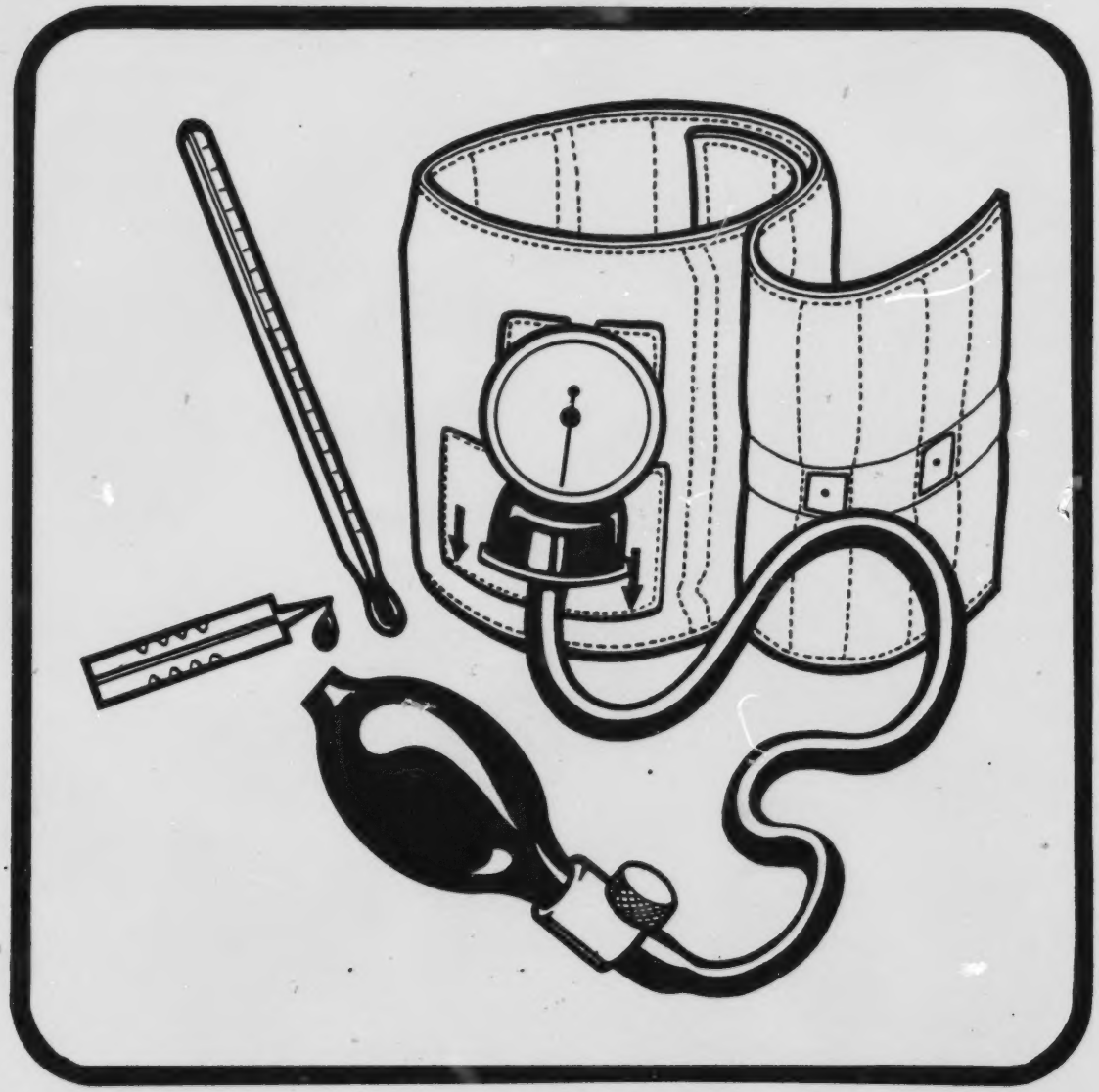
1. In the legal protection of the doctor, to assist the doctor during the exam and help the patient relax.

2. Running it under warm water and by providing the doctor with lubricant to apply the speculum.

3. To prevent mixing the patient's specimens with those of other patients.

4. To prevent spreading disease to anyone else.

5. As often as needed-usually at least twice during the exam.



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 030 date: April 1977 level: II

skill title: How to Set Up the Equipment for a Venipuncture

developed & written by: Beverly Varney

visuals by: Mary Ann Gamel

WORD GUIDE

VENIPUNCTURE - (Vee'-nih-punk-sure) A procedure to draw blood from a vein with a syringe and needle.

SYRINGE - (Sir-inj') - An instrument used to draw blood or to give "shots".

TOURNIQUET - (Turn'-ih-ket) - An elastic band or tubing to shut off the flow of blood.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to set up the equipment for a venipuncture.

AND IN ORDER TO DO THIS YOU WILL NEED:

A small tray

Two disposable 5cc syringes with 2 disposable 1½" 22 gauge needles attached

Three cotton balls

Alcohol dispenser

Tourniquet

Band-aid

Specimen bottles for blood

Box for used hypodermic equipment

Vacutainer

Vacutainer needle

Vacutainer test tube

WE WILL KNOW YOU CAN DO IT WHEN:

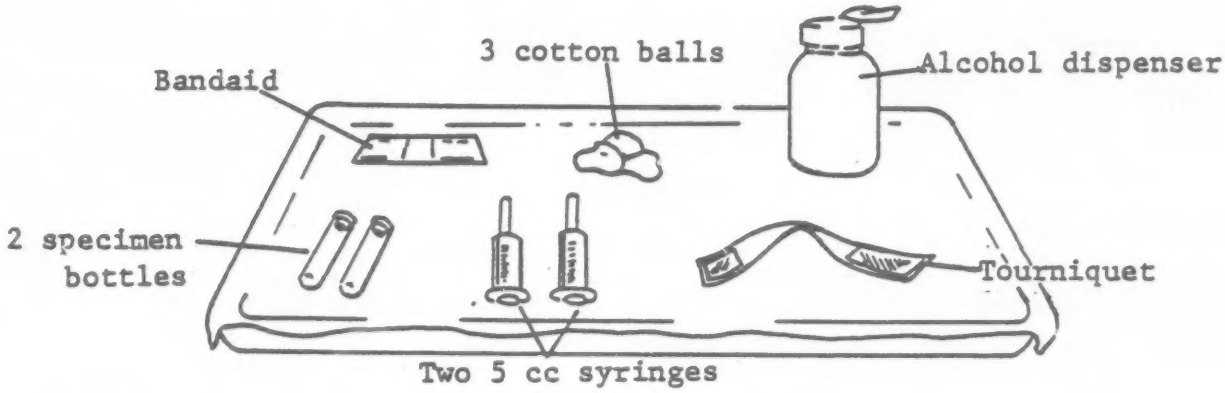
1. You put the above equipment on a tray in the area it is used.
2. You assist in role-playing a venipuncture.
3. You demonstrate the correct sequence in which you use materials by handing the correct piece of equipment to the doctor.
4. You destroy the needles and then, return the non-disposable equipment to the cupboard.
5. You can pronounce and spell the words listed in the word guide.

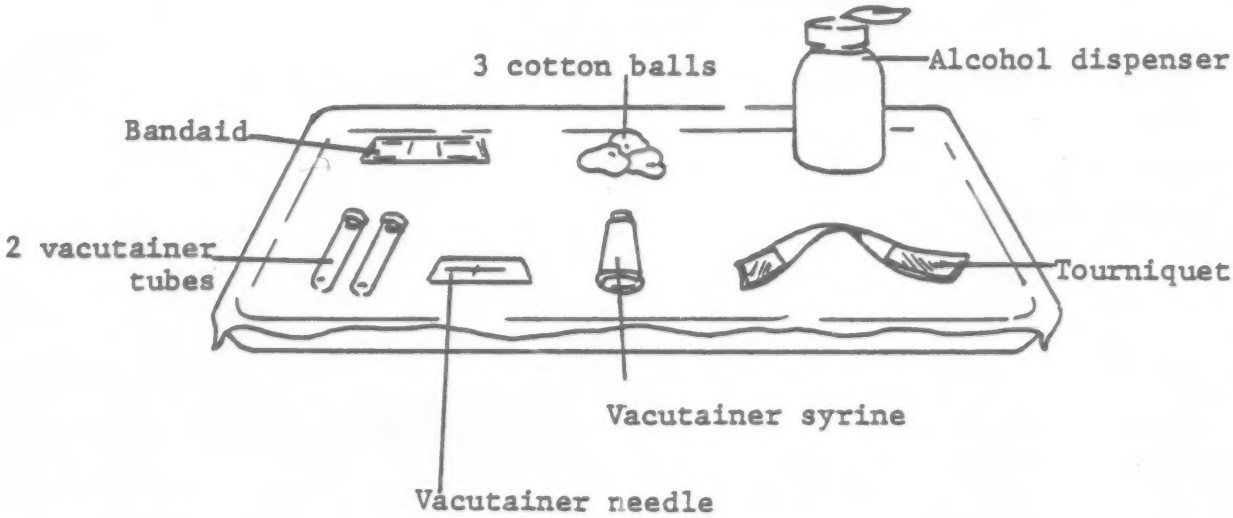
INFORMATION

Most doctors do blood tests on their patients. Doctors can do these test in their office and send the samples to a lab; or doctors can send the patient to a lab to have the blood taken and tested there.

As a medical assistant, you will need to know how to set up the equipment for a blood test, assist the doctor and care for the equipment.

There are two ways to take blood. One way is to use a syringe, needle and a bottle for the specimen. The other way is to use a Vacutainer. The following pictures illustrate the equipment you will need for each method.





JOB STEPS

NOTE: Use the following job steps when blood is taken using syringe.

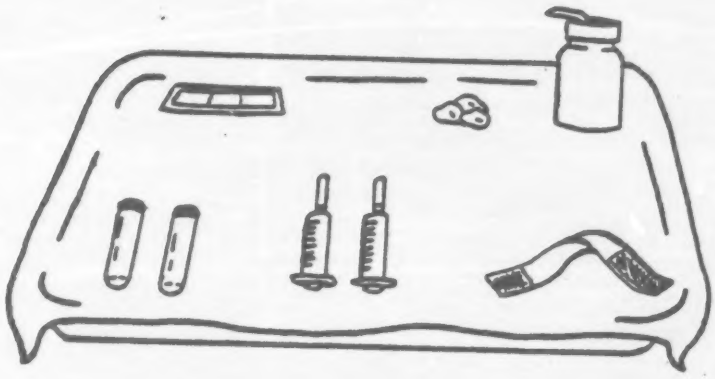
1. Collect material and go to exam area.

2. Place the syringes with the needles attached on the tray. Leave plastic guard on the needle.

3. Place the alcohol dispenser and cotton balls on the tray.

4. Place the specimen bottles on the tray.

5. Place the tourniquet and band-aid on the tray. Check to see that all equipment is properly placed on tray.



JOB STEPS

6. Assist the doctor with the following:

   Hand the doctor the tourniquet

   Hand the doctor the cotton ball with alcohol on it

   Hand the doctor the syringe

   Hold an uncorked specimen bottle ready to be filled with blood

   Apply a band-aid when the procedure is finished

7. Destroy the syringes as indicated in module 4401 06 005.

8. Throw the cotton balls in the waste basket.

9. Return the tourniquet and the alcohol dispenser to the cupboard.

10. Wash your hands.

11. Prepare the specimen for the lab as indicated in module 4401 07 012.

NOTE: Use the following job steps when blood is taken using the Vacutainer equipment.

WORD GUIDE

CONTAMINATE (Kahn-tam-in-nate) - To make unsterile.

JOB STEPS

A. Place the band-aid, cotton balls, alcohol dispenser, and tourniquet on the tray.

B. Select the correct Vacutainer tubes.

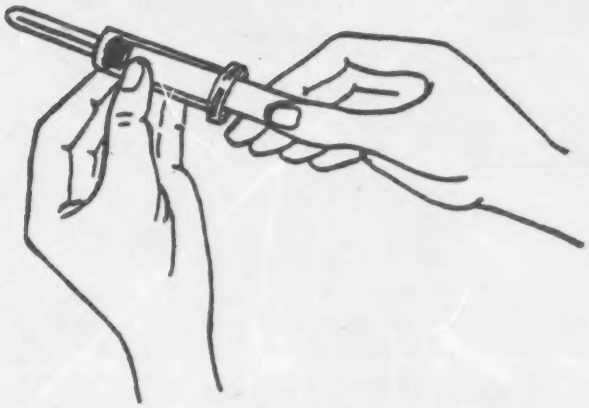
NOTE: The correct tube is selected according to the color or the cap. The laboratory will supply the information telling you which color to use for each test. In the classroom, we use red capped tubes.

C. Open the Vacutainer needle and attach it to the Vacutainer syringe. BE VERY CAREFUL THAT YOU DO NOT CONTAMINATE THE NEEDLE!!!!

JOB STEPS

D. Using an alcohol cotton ball, wipe the red top of the Vacutainer tube.

E. Insert the Vacutainer tube into the syringe.



F. Assist the doctor as in the previous method, job step 6.

G. Throw the used needle in the box for used hypodermic equipment.

H. Throw the cotton balls in the waste basket.

I. Return the tourniquet and the alcohol dispenser to the cupboard.

J. Wash your hands.

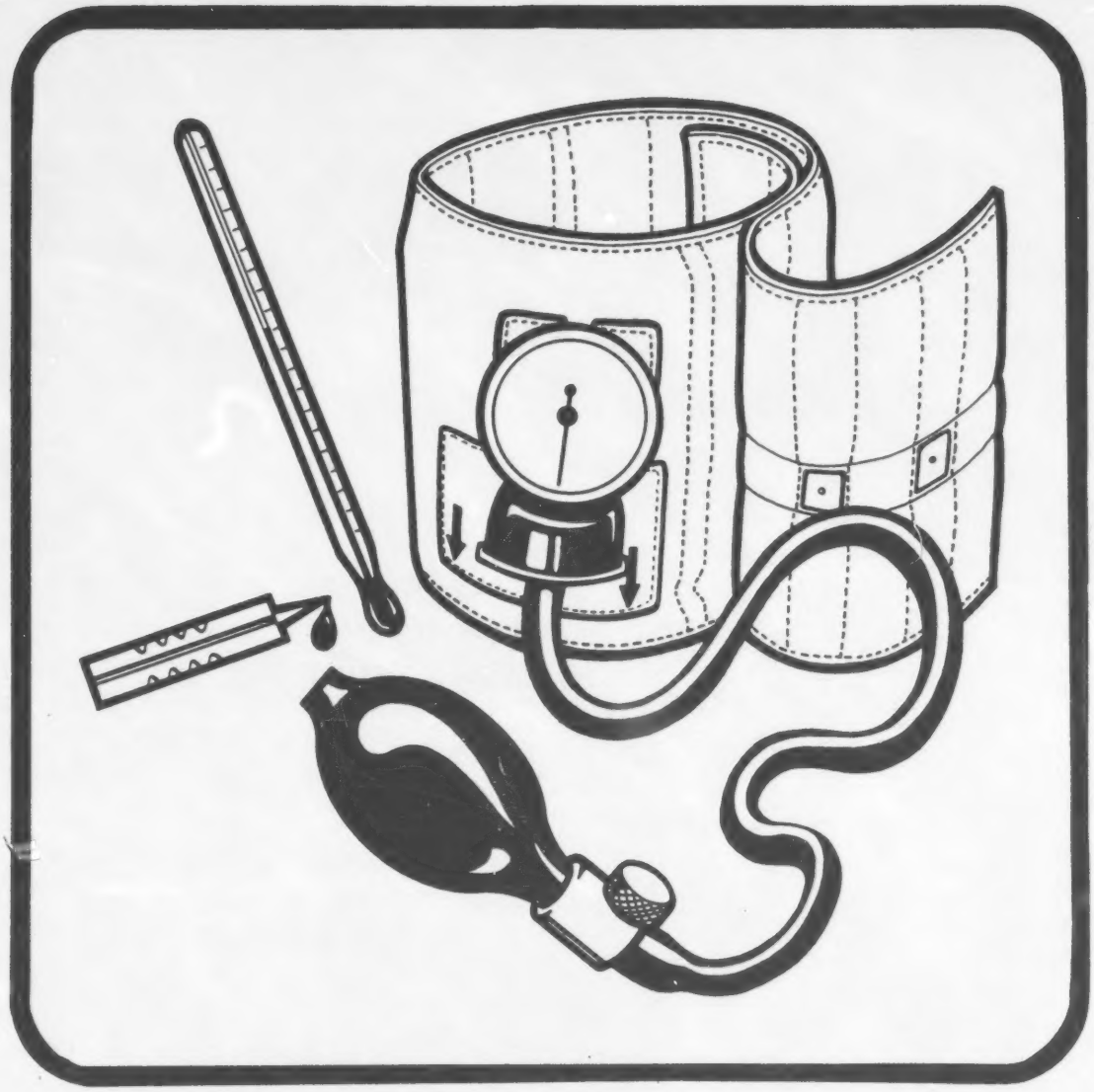
K. Prepare the Vacutainer tubes to send to the lab.

L. Put away all equipment.

JOB STEPS

To pass this module you must be able to do the following:

1. Set up the equipment - both methods.
2. Demonstrate how to assist the doctor.
3. Demonstrate how to care for the equipment.
4. Be able to define and spell the words in the word guide.



medical assistant

unit: THE EXAMINATION

capital area career center

module: 4401 05 031 date: May 1977 level: II

skill title: How To Set Up A Hyfrecator Electrocautery For Use And Clean It After Use

developed & written by: Beverly Varney

visuals by:

Industry has told us that they require you to know and be able to do the following skills. Take your time. Read very carefully. Ask questions.

Read the objective as if it were one sentence--your instructor will show you how.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to set up a Hyfrecator electrocautery for use and clean it after use.

AND IN ORDER TO DO THIS YOU WILL BE GIVEN:

1. Hyfrecator
2. Electrocautery tips
3. Local anesthetic solution
4. 3cc syringe with 23g x 1 inch needle
5. Topical anesthetic solution
6. Sponge stick
7. Jar of sterile cotton balls
8. Exam table
9. Cart

WE WILL KNOW YOU CAN DO IT (PASS) WHEN:

You demonstrate how to set up the Hyfrecator for use so that:

TEST AND EVALUATION

- The foot switch is on the floor
- The power cord is plugged in
- The tip is in the tip holder
- The local or topical anesthetic is available
- The extra tips are available

TURN TO NEXT PAGE

INFORMATION YOU NEED

DIRECTIONS:

In order to be able to understand and do the job steps, do everything on this page before going to the next page. Ask your instructor to help if you need it.

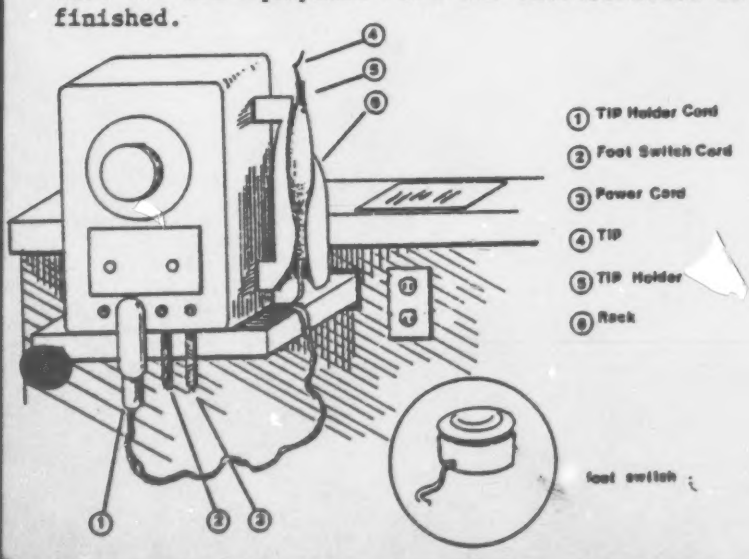
INFORMATION	MATERIALS (List chapter, page, etc.)	WHERE YOU WILL FIND MATERIAL
You need this information because: The Hyfrecator is an electrocautery manufactured by the Birtcher company. There are other kinds. This one is the one most often used in medical offices. "Electro" means electricity,"cautery" means to burn. Electrocautery means using electricity to burn tissue. There are many uses for electrocautery. It can be used to stop bleeding (hemostasis); for removal of cutaneous and/or plantar warts; for treatment of erosion of the cervix. Electrocautery, in each of these causes pain so an anesthetic will be used. When electrocautery is used for hemostasis it is almost always a case where there is an accidental cut, and the doctor is suturing (sewing) the cut shut. The doctor will inject a local anesthetic in the edges of the cut before starting to suture. Warts are hypertrophied skin. The medical term for wart is verruca (ver-roo'-kah). They are not pretty nor do they help the person in any way. Sometimes they are in a place on the body where they get in the way of normal activity. Most people want to have them removed. One way to do this is to, first, inject a local anesthetic around the wart and then use the Hyfrecator to burn the wart off. Erosion of the cervix is not uncommon. It usually follows a vaginal infection. The infection causes irritation of cervical tissue and the irritation "eats" away at the tissue. When this happens the doctor may		

Turn to Next Page

INFORMATION YOU NEED

DIRECTIONS:

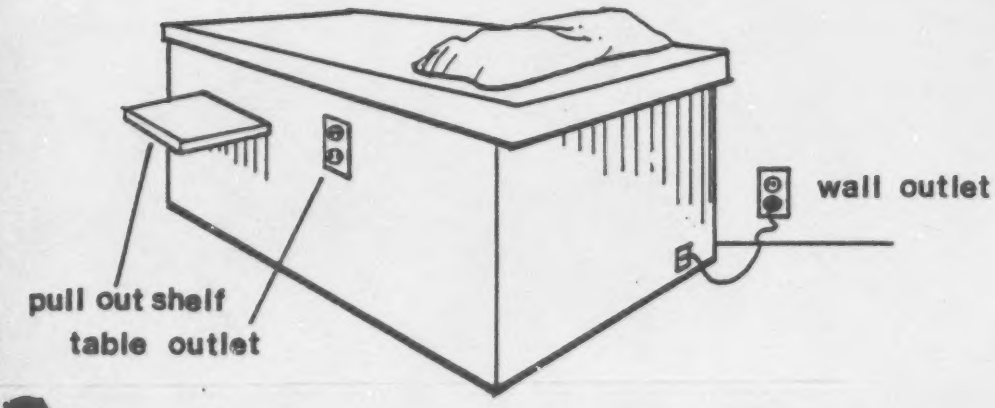
In order to be able to understand and do the job steps, do everything on this page before going to the next page. Ask your instructor to help if you need it.

INFORMATION	MATERIALS (List chapter, page, etc.)	WHERE YOU WILL FIND MATERIAL
decide to cauterize, or burn, the irritated tissue. He/she will use a topical anesthetic on the cervix. To do this he/she uses a sponge stick and a cotton ball moistened with topical anesthetic solution. When the topical anesthetic is held against the cervix it numbs the cervix. The doctor then burns the erosion. After 10 -14 days, new skin forms underneath the erosion and the old tissue flakes off and is passed out through the vagina. This leaves the cervix covered with new, healthy tissue. Look at the pictures on page 198 of A Guide To Physical Examination, Bates and Holkelman. The pictures show how erosion of the cervix looks. It will be the Medical Assistant's job to have the electrocautery equipment ready for the doctor, and to care for the equipment when the cauterization is finished.  175		

Turn to Next Page

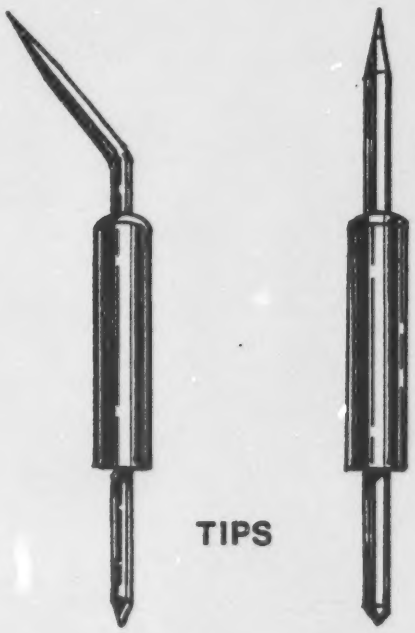
JOB STEPS

DIRECTIONS: Do in the exact order listed.	Equipment & Materials Needed (See Page 2)
Step 1. For the materials and equipment you will need to complete the following steps, reread the Goal (page two). Any additional material needed to learn the skills will be listed in the Equipment & Materials column on this page.	
2. Set the Hyfrecator in a place where it is easy to reach. This may be on a cart on the pull-out shelf of the examining table, or any other place where the doctor can reach it while he works on the patient. In the classroom, for this module, set it on the pull-out shelf of the examining table.	
3. Straighten the cord to the round foot switch and put the foot switch on the floor with the rubber side down.	
4. Plug the power cord into the outlet of the table. Be sure the table power cord is plugged into the wall outlet. If the table in the office where you work does not have a table with an outlet, plug the Hyfrecator power cord into the wall outlet.	



Turn to Next Page

JOB STEPS

DIRECTIONS: Do in the exact order listed.	Equipment & Materials Needed (See Page 2)
5. Place the tip-holder in the rack on the right side of the Hyfrecator. Look at the picture in the Information section. 6. Plug the other end of the tip holder cord into the hole at the bottom of the Hyfrecator, which is marked "High." Look at the picture in the Information section. 7. Lay the tips for the Hyfrecator on the cart, close enough so the doctor can reach them.  TIPS 8. If the doctor is going to remove a wart or do hemostasis, place the local anesthetic, syringe and needle beside the tips on the cart. Do this for this mod. 9. If the doctor is going to do a cervical cauterization place a sponge stick and the topical anesthetic next to the tips, on the cart. Do this for this mod.	

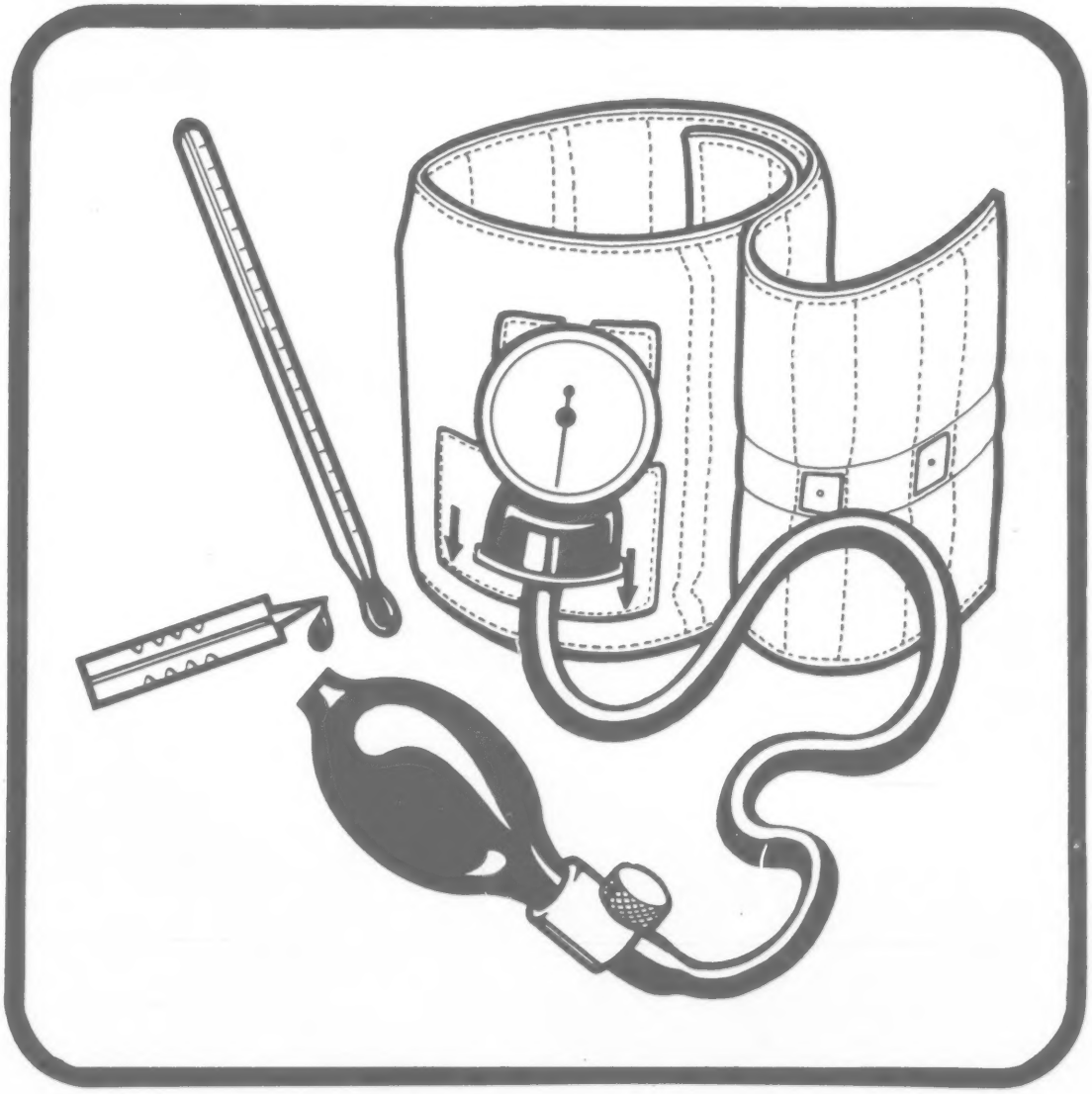
JOB STEPS

DIRECTIONS: Do in the exact order listed.	Equipment & Material Needed (See Page 2)
10. When the cauterization is finished, remove the tip from the tip holder and place it with the other soiled instruments. 11. Return the Hyfrecator to it's storage place. In the classroom this is the bottom drawer on the side of the blue exam table. 12. Take the soiled equipment to the sink and wash with soap and water. 13. Destroy the syringe and needle (mod 4401 06 005) 14. Place the clean, dry, Hyfrecator tips and the sponge stick in cold sterilization solution. Remove them after 20 minutes. Dry them and store them with the Hyfrecator. 15. Return all other equipment to the storage area. FOR YOU TO THINK ABOUT: Why do you place the tips in cold sterilization if you are going to remove them and store them in an unsterile place? Talk about your answer with your teacher.	

Now have your instructor check your work.
(See page 2 for Test & Evaluation.)

TECHNICAL WORDS

Found In Job Step Number	Words	Meaning
Page 2	Hyfrecator (hi'-freh-cay-tor)	The brand name of an electrocautery
Page 2	Electrocautery (ee-leck-trow-caw'-ter-ee)	Burning with electricity
Page 2	Topical Anesthetic (top'-ick-ahl ann-ess-thet'-ick)	A medicine to put on skin to numb or deaden it
Page 2	Local Anesthetic	A medicine to put into tissue, with a needle, to deaden it
Page 3	Inject	Put in the tissue with a syringe and needle
Page 3	Hypertrophies (high-per'-trow-feed)	Thickened or enlarged
Page 3	Vaginal (vajh'-in'al)	Pertaining to the vagina
Page 4	Vagina (vah-jine'-ah)	The birth canal, the opening to the outside of the body from the female reproductive system
Page 3	Plantar (plant'-are)	On the sole of the foot
Page 4	Erosion (ee-row'-shun)	Eating away of the tissue by an infection
Page 3	Cervix (sir'-vix)	The neck of the uterus
Page 4	Cauterization (caw-ter-eyes-a-shun)	Burning



medical assistant

unit: SUPPLIES AND EQUIPMENT MAINTENANCE

capital area career center

module: 4401 06 001 date: July 1977 level: II

skill title: How to Order and Care for Medical Supplies

developed & written by: Beverly Varney

visuals by: Mary Ann Gamel

WORD GUIDE

MEDICAL SUPPLIES - Supplies used in the diagnosis and treatment of patients.

INVENTORY - A list of all the supplies and equipment.

PERFORMANCE OBJECTIVE

You are going to learn:

How to order and care for medical supplies.

And in order to do this you will need:

Inventory list

Paper

Pencil

We will know you can do this when:

1. You can locate and count all equipment on the inventory list.

2. You can determine which supplies need to be re-ordered.

INFORMATION

In Your Roles As A Medical Assistant, read chapter 14, "Your Role As Supply Clerk and Purchasing Agent." The information will help clear up any questions you may have.

It is necessary for you to know which items we should have from the inventory list. You should also know what company manufacturers the item and how it is supplied. How it is supplied means how many are contained in a package. The following list contains the most common units of supply:

1/2 dozen or 6 items

1 dozen or 12 items

500 items per box or case

1 gross or 12 dozen (144 items)

1000 items

1 case - the number per case varies with each item you order. You must know how many items in a case, or a box, or a package.

If a box or a case is more than half full, look to see how many items are in the total when full and then estimate how many items are in the box. For example, if a box contains 500 syringes and it looks a little over half full, do not count the syringes, but guess about 300. If less than half full, you may need to count the items.

In a medical office, you should also have an inventory. You will need to know when your supply is low so that you can order more. To determine when an item should be re-ordered depends on how many patients the doctor sees and how many he uses of that particular item.

The doctor usually has one or two medical supply places from which he/she will order. Usually, you can place a telephone order with these supply people. If you work for a large group practice, there may be a business manager who is in charge of purchasing all equipment. You would only need to tell the business manager when the item is needed.

When supplies are delivered, there will be a packing slip or an invoice which indicated the content in the box. Check the inventory slip to make sure no items are missing. You may see an item listed but is marked "back order". The company is temporarily out of that item and will ship it later. When you are certain all items are there, store them on shelves with other equipment and mark the packing slip. For example: All items received on __(date)__ or all items received except back order.

If an item is listed and is not contained in the box, mark that item on the packing slip. Then, contact the company. Tell them the missing item and ask them to ship it.

JOB STEPS

1. Collect your materials.

2. Ask your instructor for the classroom inventory list.

3. Check each item on the inventory list and write down the amount on hand.

4. Consider there are 40 students in the class and the school years ends in the middle of June. Write down the answers to the following questions.

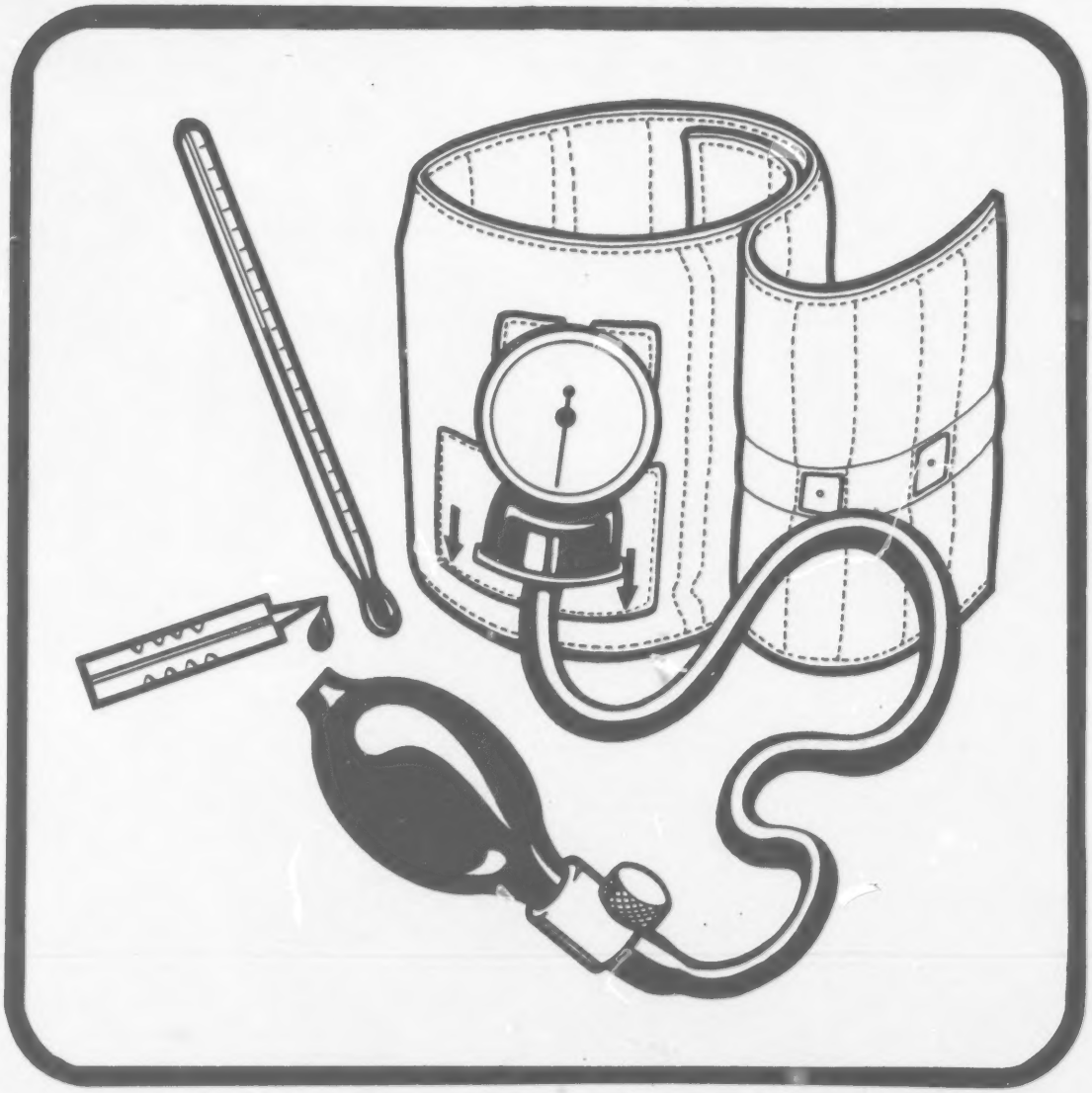
   a. Is there enough of each supply item to last the year?

   b. How soon should you order (short supply) items?

5. Make a list of items that need to be ordered.

6. Have your instructor check over the list.

7. Help to unpack and store new supplies as they arrive.



medical assistant

unit: SUPPLIES AND EQUIPMENT MAINTENANCE

capital area career center

module: 4401 06 002 date: June 1977 level: II

skill title: How to Order and Care for Laundry

developed & written by: Beverly Varney

visuals by: Mary Ann Gamel

PERFORMANCE OBJECTIVE

You are going to learn:

How to care for and order laundry.

And in order to do this you will need:

Washcloths

Towels

Sheets

Pillowcases

Patient's examination gowns

Storage cabinet

Storage cupboard

We will know you can do this when:

1. You can correctly answer questions based on the content in the "information" section.
2. You can send out and receive classroom laundry.
3. You can recognize if the classroom supply is filled.

INFORMATION

You need to know how to take care of the laundry in a doctor's office because some doctor's do not use paper disposable sheets, towels, etc.

Many physician's rent sheets, towels, patient gowns, and their own coats from a linen supply firm that makes weekly deliveries. The companies, as a rule, rent out a certain number of each item at a flat rate per month.

You will need to decide the amount of each item you need for a month. The laundry will leave clean items to equal the number of dirty items they take away. For instance, if the doctor does one physical a day and uses one sheet and towel for each, you need to order at least 30 towels and 30 sheets for a month's supply. If you find that fewer or more of any item is used, you can change your order.

Laundry should be carefully checked when it is delivered. To be sure you are charged for what is delivered, keep the delivery slips and count the items received. Articles with stains, missing buttons, rips or excessive mend should not be accepted. Inform the laundry service about the unacceptable items.

INFORMATION

In our classroom, we store linen in the exam tables and in drawers. Extra linen is kept in the large linen closet in another classroom. Ask your instructor to show you the area where extra linen is kept.

Dirty laundry is put in the laundry hamper. In some offices, you will use just a laundry bag. Send out the dirty laundry once a week when the clean is delivered.

When the doctor uses all disposable items, order the items by the case. Check how many disposable items are on hand when you put away the laundry.

Supply List for Classroom

1 Case of disposable sheets per year
1 Case of disposable towels per year
2 Large cloth sheets
3 Pillowcases
3 Bath towels
6 Washcloths
24 Green surgical towels
3 Laundry bags

JOB STEPS

1. Check the exam tables drawers and cupboards for the items listed on the supply list.

2. Make a list of items which need to be ordered. For example, if there are four washcloths, write down 2 washcloths.

3. Repeat job steps 1 and 2 in the clinic. Use the supply list in the drawer of the bedside stand.

4. When you have checked all items, ask your instructor for the key to the linen closet. Get the items you need from the linen closet and place them in the drawers.

5. Next Wednesday, (or on the next laundry pick-up day), take the dirty laundry bag out of the hamper stand and put it in the hallway outside the classroom door.

6. Place a new bag on the hamper frame.

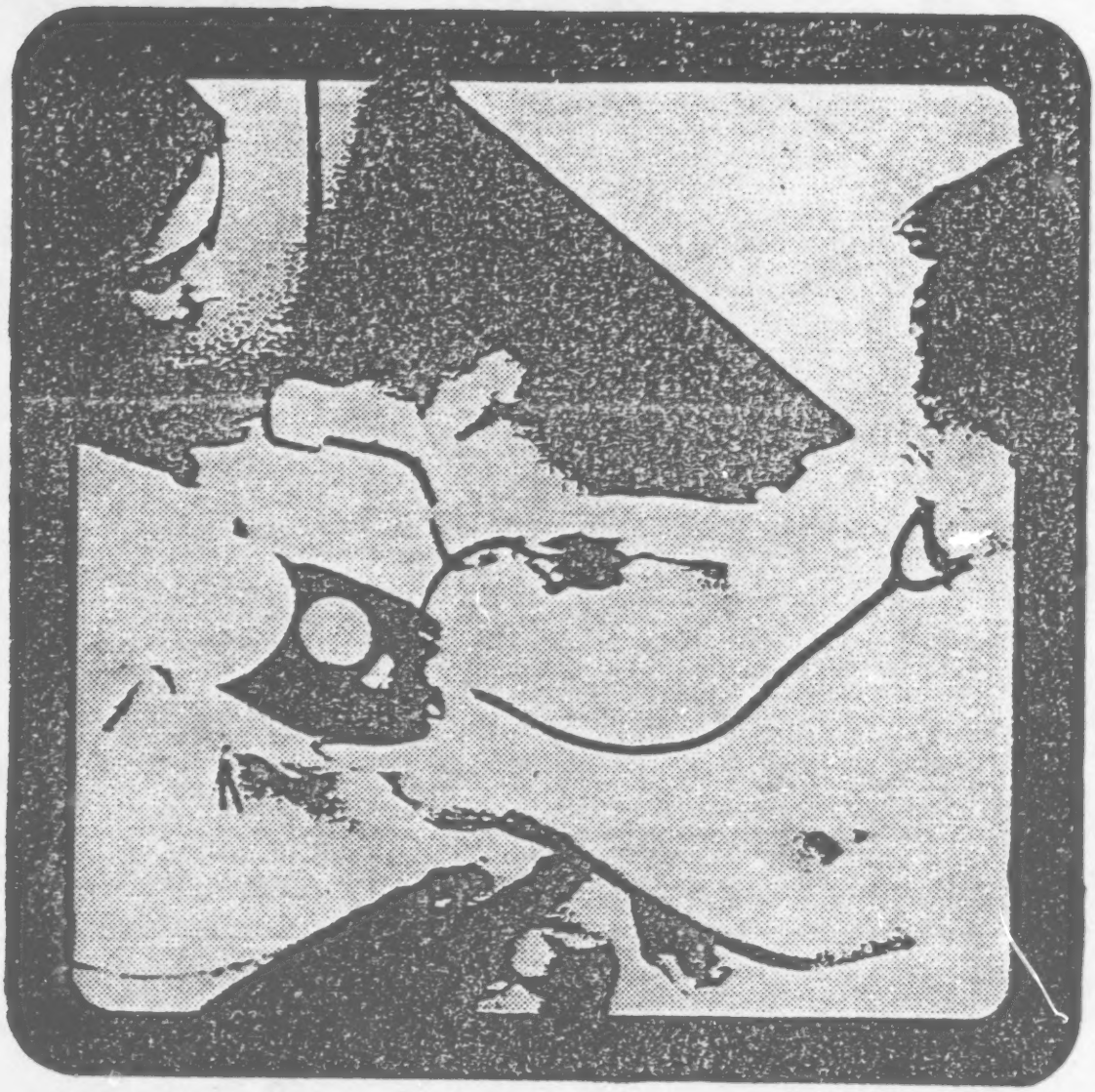
7. The next time you receive laundry, store it on the shelves in the linen closet.

8. Answer the following questions:

   a. Why is it necessary for a Medical Assistant to count the returned laundry?

   b. For what should you check laundry items?

   c. What must you do if you always have 15 clean sheets on the shelf, even after all patient exams are finished?



medical assistant

unit: Supplies and Equipment Maintenance

capital area career center

module: 4401 06 005 date: 7/77 level: I

skill title: How to Care for Disposable Hypodermic Syringes and Needles

developed & written by: Beverly Varney

visuals by: Mary Ann Gamel

WORD GUIDE

DESTRUCLIP - A special piece of equipment used to clip off needles and syringe tips.

PERFORMANCE OBJECTIVE

You are going to learn:

How to care for disposable hypodermic syringes and needles.

And in order to do this you will need:

Used syringe and needle with needle guard on it

Box marked for contaminated syringes and needles

Destruclip or pliers

Utility room

We will know you can do it when:

1. You break apart the needle and syringe so that it is impossible for them to be reused.
2. You put the broken needle and syringe into a box marked "contaminated needles and syringes", so that the persons removing the waste material will not accidentally injure or infect themselves.

INFORMATION

It is important to correctly take care of syringes and needles. Always store syringes in a locked cupboard. When you finish using a disposable syringe and needle, you should destroy them. Use a Destruclip to destroy the needle and syringes, or twist off the needle and crush the barrel with the pliers.

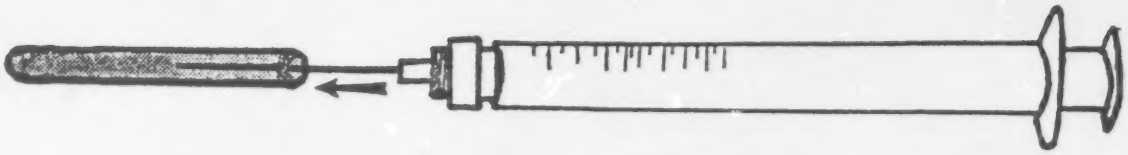
Patients often request syringes to take home. Before the advent of widespread drug abuse, this used to be possible. They made fine guns and oilers for model cars. This practice is now totally discontinued. Gently but firmly say you are not allowed to give out syringes. Be careful that a person does not steal syringes from your office. Keep them in a locked cupboard.

Be careful not to stick yourself with a dirty needle. Infection and disease could result.

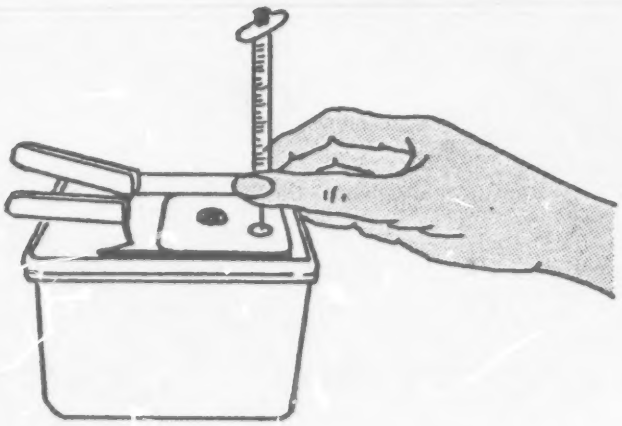
JOB STEPS

1. Collect your materials.

2. Remove the needle guard from the needle.

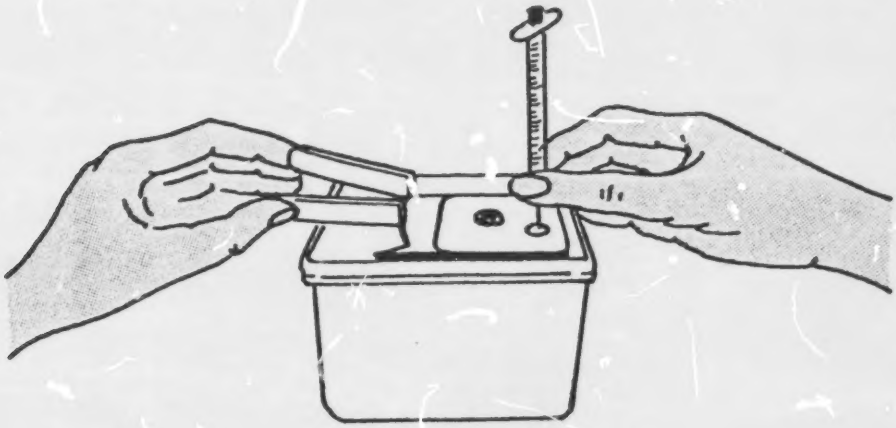


3. Insert the needle into the hole printed as "step 1" on the top of the Destruclip.

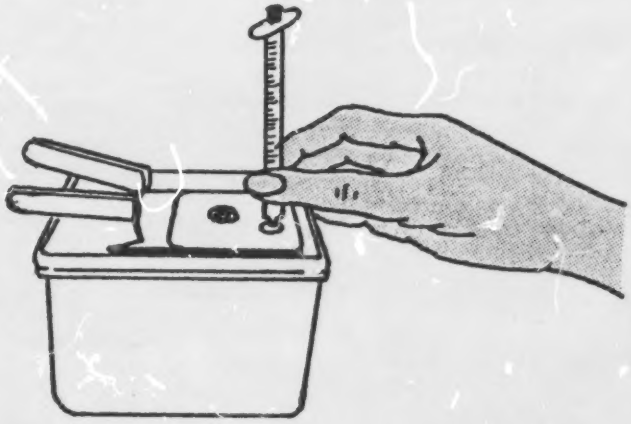


JOB STEPS

4. Squeeze the two handles together clipping off the needle.



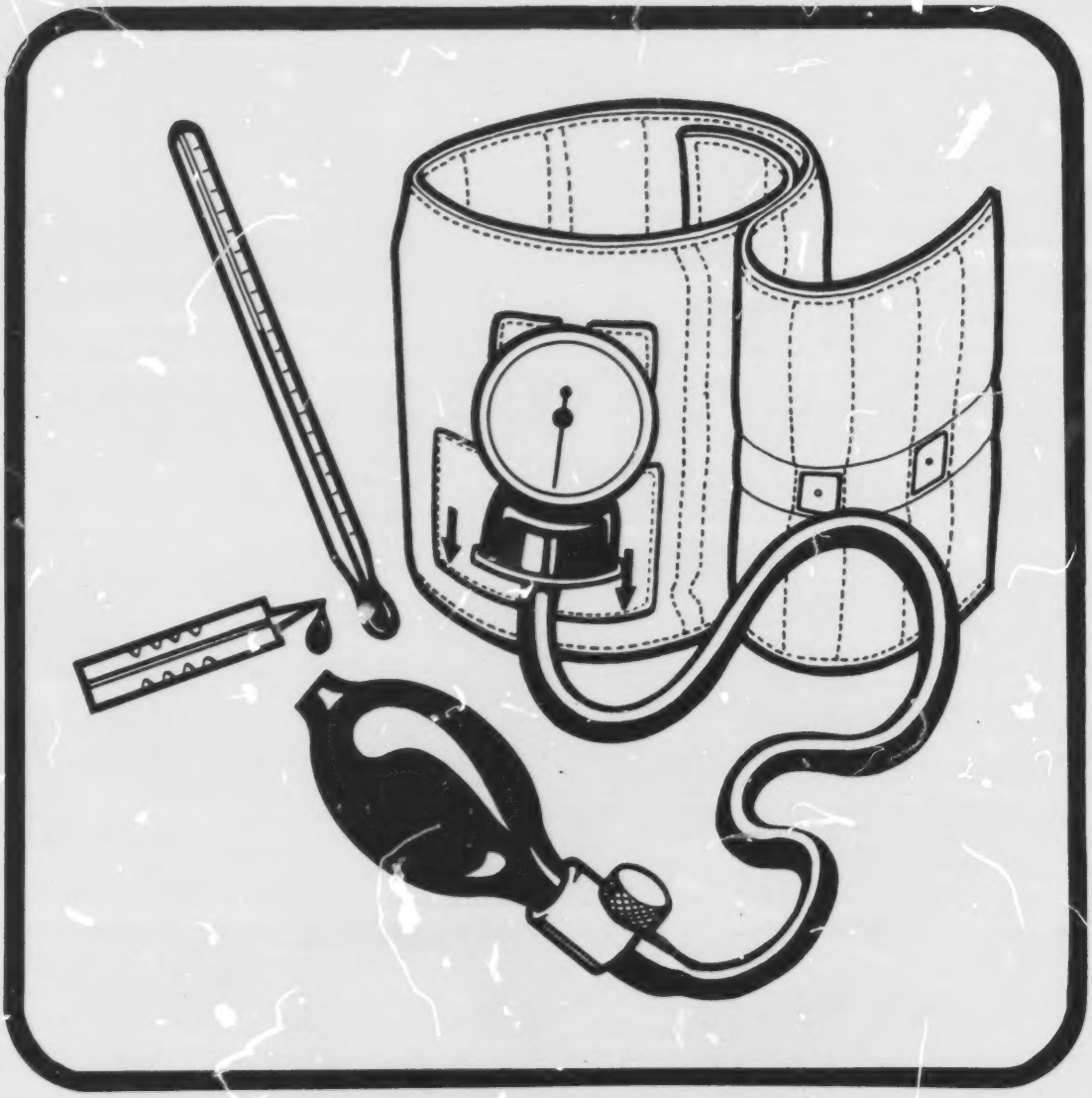
5. Re-insert the syringe barrel tip into the hole as printed in "step two" on the top of the Destruclip.



6. Squeeze the two handles together clipping off the tip of the syringe barrel.

7. Place the broken needle tip and syringe into the receptacle marked "contaminated needles and syringes."

8. Throw the needle guard in the wastebasket.



medical assistant

unit: SUPPLIES AND EQUIPMENT MAINTENANCE

capital area career center

module: 4401 06 006 **date:** July 1977 **level:** I

skill title: How to Maintain and [illegible] Administrative Supplies

developed & written by: Beverly Varney

visuals by:

WORD GUIDE

ADMINISTRATIVE - Supplies used in the business part of a medical practice.

PERFORMANCE OBJECTIVE

You are going to learn:

How to maintain and order administrative supplies.

And in order to do this you will need:

Supply list

Paper

Pencil

Catalog for administrative supplies

We will know you can do this when:

1. You list any items not available in the classroom.
2. You can tell where to order the supplies.
3. You correctly fill out the order form with the necessary information.

WORD GUIDE

PHARMACY - Drug store.

INFORMATION

The Medical Assistant must keep track of supply amounts and order more when necessary.

1. Many doctors now get their supplies from one of the instant print companies. The following items will be ordered from a printing company:

Letterhead	Envelopes	Charge slips
Appointment Cards	History forms	Statements

   Most of the above items will have the doctor's name, address, zip code, and phone number printed on them. Pre-stamped envelopes can be ordered from the post office with the doctor's name and address printed on them.

2. Prescription blanks are usually supplied by pharmacies or drug companies. If they are not, the doctor may have to have them printed.

3. Daybook pages, ledger cards, pegboard supplies are ordered from the manufacturer of the preferred pegboard.

4. Carbon paper and file folders can be purchased from an office supply store.

5. Insurance forms are ordered from Blue Cross/Blue Shield or from the department of Social Services if for medicaid.

6. Pencils, erasers, paper clips, staples, etc. can be purchased at a local store.

On the following page there is a supply list. Look at the list and ask your instructor questions if you do not know what some of the items are.

INFORMATION

Supply List

1. Letterhead - CACC Physician's Group, P.C.
2. Envelopes - large and small
3. Prescription blanks - (there are none in the classroom)
4. Appointment book pages
5. Lab slips
6. Charge slips
7. Appointment cards
8. Daybook pages
9. Carbon paper
10. Medical history forms
11. Insurance blanks - Medicaid and Blue Cross
12. Memo pads
13. Pencils
14. Erasers
15. Paper clips
16. Staples
17. Pegboard shingled receipts
18. Pegboard daybook pages
19. Rubber bands
20. File folders
21. Statements
22. Ledger cards
23. Typing paper

INFORMATION

If you must order supplies through the mail, it is necessary to know how to fill out an order form. The following words appear on the order blank. Learn them before studying the blank and then look at the form on the next page.

TYPE FACE - The style of print you choose

QUAN. - Abbreviation for quantity or amount ordered

ITEM & STYLE OR ITEM NUMBER - The item and style you are ordering each have a number. Write in the number on the line indicated.

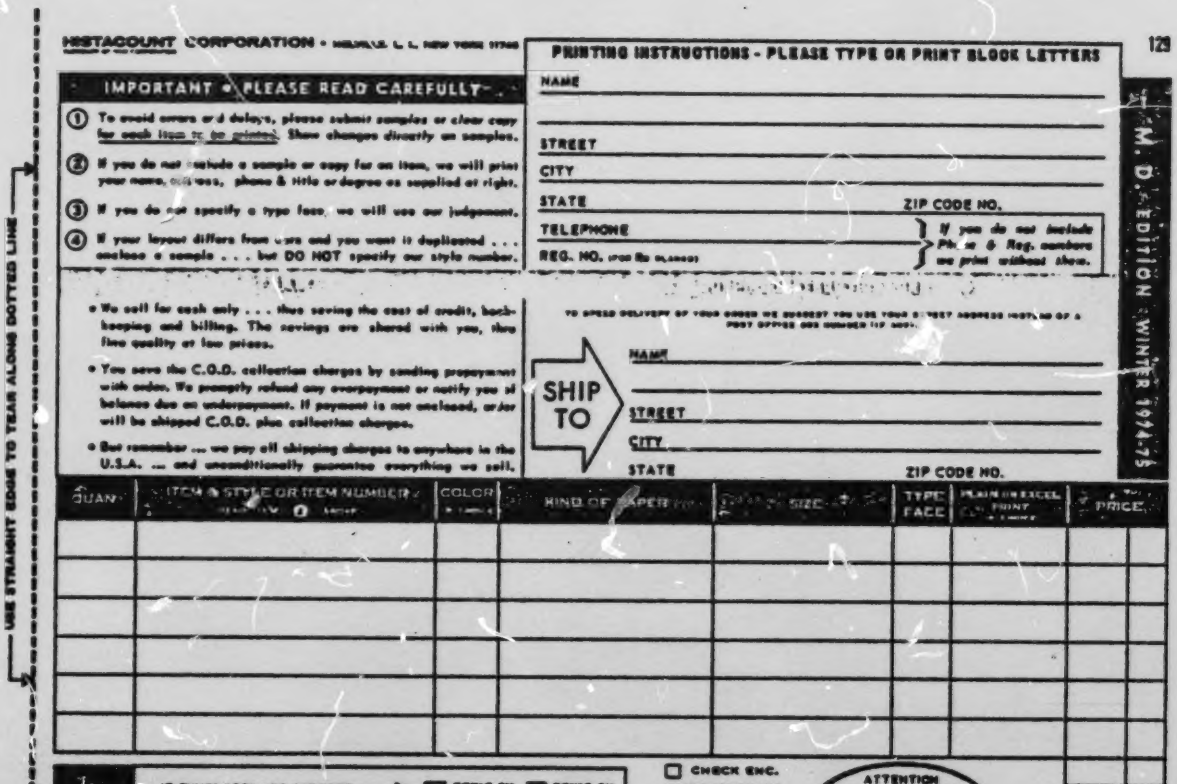
COLOR - If there is a color choice, write your choice on this line.

KIND OF PAPER - If there is a choice of paper, write your choice on this line.

SIZE - There may be different sizes of each item

PRICE - Include the price for the quantity you order. You will find all the prices listed in the catalog.

INFORMATION



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IMPORTANT • PLEASE READ CAREFULLY

1. To avoid errors and delays, please submit samples or clear copy for each item to be printed. Show changes directly on samples.
2. If you do not include a sample or copy for an item, we will print your name, address, phone & title or degree as supplied at right.
3. If you do not specify a type face, we will use our judgement.
4. If your layout differs from ours and you want it duplicated . . . enclose a sample . . . but DO NOT specify our style number.

- We sell for cash only . . . thus saving the cost of credit, bookkeeping and billing. The savings are shared with you, thru fine quality at low prices.
- You save the C.O.D. collection charges by sending prepayment with order. We promptly refund any overpayment or notify you of balance due on underpayment. If payment is not enclosed, order will be shipped C.O.D. plus collection charges.
- But remember ... we pay all shipping charges to anywhere in the U.S.A. ... and unconditionally guarantee everything we sell.

PRINTING INSTRUCTIONS - PLEASE TYPE OR PRINT BLOCK LETTERS

NAME

STREET

CITY

STATE ZIP CODE NO.

TELEPHONE

REG. NO. (FOR RE-ORDERS)

If you do not include Phone & Reg. numbers we print without them.

TO SPEED DELIVERY OF YOUR ORDER WE SUGGEST YOU USE YOUR STREET ADDRESS INSTEAD OF A POST OFFICE BOX NUMBER (IF ANY).

SHIP TO

NAME

STREET

CITY

STATE ZIP CODE NO.

M. D. EDITION WINTER 1974-75

USE STRAIGHT EDGE TO TEAR ALONG DOTTED LINE

QUAN	ITEM & STYLE OR ITEM NUMBER	COLOR	KIND OF PAPER	SIZE	TYPE FACE	PLAIN OR EXCEL PRINT	PRICE

NOTE: IF ENVELOPES ARE ORDERED, PLEASE CHECK. → ☐ PRINT ON CORNER ☐ PRINT ON FLAP (All self-sealing and window envelopes are cannot printed only.)

☐ CHECK ENC. MAKE CHECK PAYABLE TO HISTACOUNT

☐ SHIP C.O.D. PLUS COLLECTION CHARGES

ATTENTION New York State residents ONLY Please include your total N.Y. sales tax.

TOTAL

Read the directions on the upper left-hand side of the page. Explanation of directions:

1. When you are re-ordering, send along a sample so that the new order will be exactly the same. If there are changes, write those changes on the sample.

WORD GUIDE

FEDERAL NARCOTICS REGISTRY NUMBER - A number assigned to each doctor to assist in keeping track of all controlled substances.

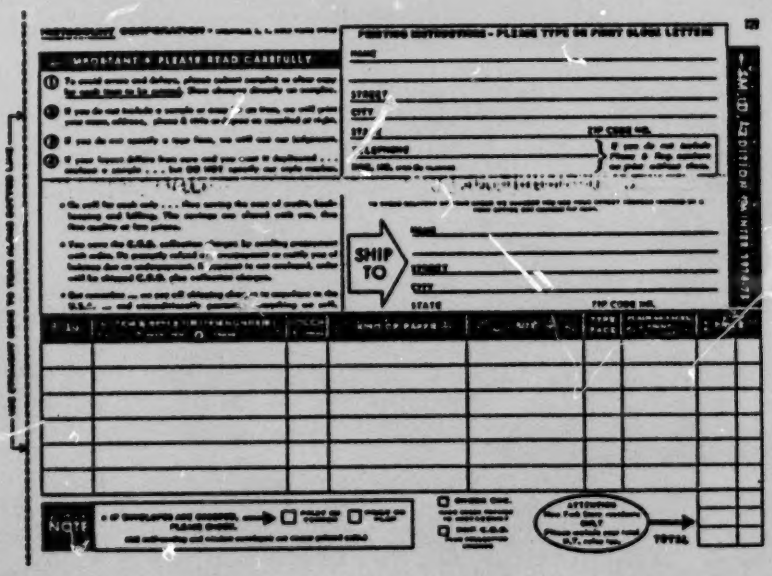
INFORMATION

2. If you send a sample, write "see sample" in the upper right-hand corner, under PRINTING INSTRUCTIONS. If the order is new and you do not have a sample to send, you will need to type or print the necessary information in the upper right-hand corner, under PRINTING INSTRUCTIONS. The Reg. No. line is only necessary if you are ordering prescription blanks. If you are ordering prescription blanks, you must write the doctor's Federal Narcotic Registry Number.

3. There are many printing styles to choose from in the catalog. If you do not indicate any particular style, the printer will choose one for you.

4. If you choose a printing style not listed in the catalog, send a sample, but do not fill in a number in the style and type face columns of the order form.

Look at the form again. If you have any questions, ask your instructor.



JOB STEPS

1. Collect your materials.

2. Use the supply list to find the necessary items. Most of the items are on the desk or in the filing cabinet.

3. List any items you do not find, or any items in short supply.

4. Ask your instructor for an administrative supplies catalog.

5. Using the catalog, write down the number of fan-fold statements in a box and their cost.

6. Using the catalog, write down the number of boxes you should order for a six months supply, if you send out 125 statements per month.

7. Fill out an order form for the number of statements needed in job step 6. Order forms are in folder 4401 06 006 in the filing cabinet.

8. Have your instructor check your work.

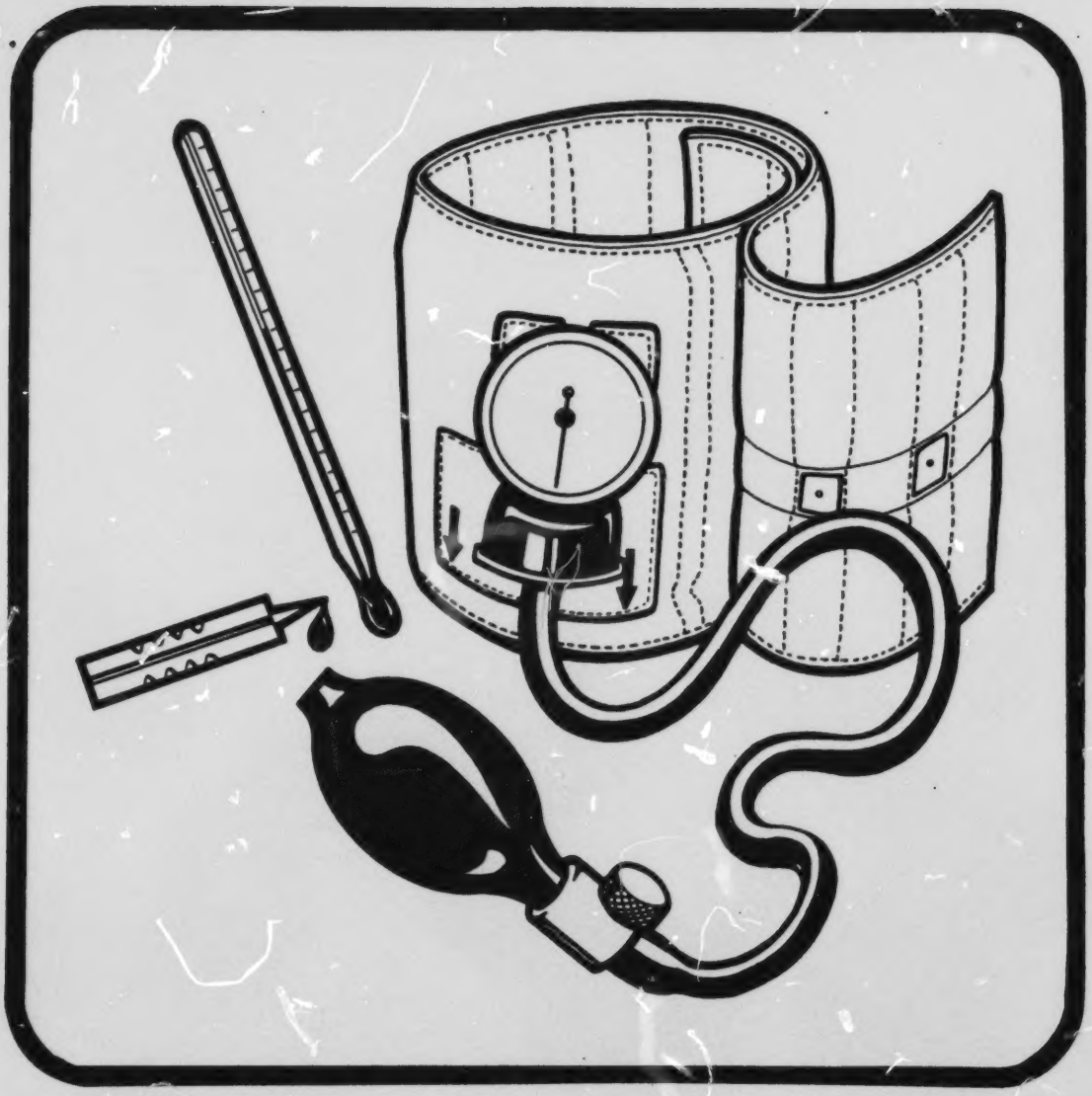
ANSWERS

5. 500 - $10.35
   1000 - 13.75
   2000 - 24.65
   4000 - 46.90
   8000 - 87.60

6. One box of 1000 for six months.

7.

Quan.	Item/Style	Color	Paper, etc.	Price
1000	As shown			13.75



medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 001 date: March 1977 level: II

skill title: How To Collect A Urine Specimen From A Patient

developed & written by: Pat Pittenger

visuals by: Mary Ann Gamel

WORD GUIDE

COLLECT - Put a sample in a container.

SPECIMEN - A small sample.

PERFORMANCE OBJECTIVE

You are going to learn:

How to collect a urine specimen from a patient in the Doctor's office.

And in order to do this you will need:

A person acting as a patient

A bathroom, paper towel, soap and water

A disposable specimen container

Three individually wrapped towelettes

Wastebasket

Pen and patient's chart

We will know you can do this when:

1. You tell your patient where the bathroom is located.
2. You tell your patient what kind of specimen the Doctor wants and how to collect the specimen.
3. You can explain the directions so the patient understands each step.
4. You can pour 2-3 ounces of urine into special container without spilling it.
5. You tightly cover the specimen.
6. You label the specimen with the correct patient's name and the date.

WORD GUIDE

URINE - A watery waste product.

URETER - Long, narrow tube that carries urine from the kidney to the bladder.

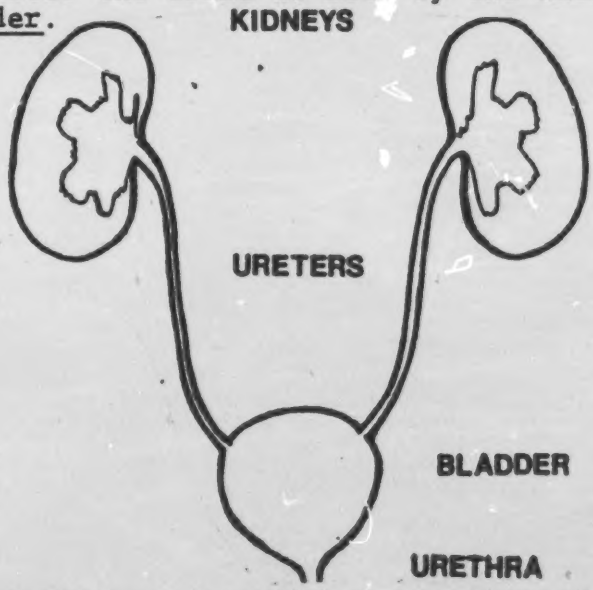
URETHRA - A canal which carries the urine out of the body.

URINARY TRACT - The kidneys, ureters, bladders and urethra.

INFORMATION

You are going to learn how to instruct a patient to give you a urine specimen.

Urine is made by the body and is the watery waste the body does not want. The part of the body where the urine is made is called the kidneys. After the urine is made by the kidneys, it is stored in the bladder.



Different words are used to describe the process of pushing the urine out of the body. The urine is pushed out of the body through the urethra.

This is called urinating (ur-i-na-ting). Some people say "to make water" or "to pass water". Another term is "to void".

Looking at and testing a patient's urine sample helps the Doctor to find out what is wrong with the patient. By looking at a drop of urine under the microscope, the Doctors can tell if the patient has a urinary tract infection.

WORD GUIDE

MID-STREAM - That part of the urine stream just after the beginning.

CLEAN CATCH - Cleaning or washing the urinary opening and the surrounding area before urinating.

CATHETERIZE - To pass a small tube through the urethra into the bladder to drain the urine. (This would be considered a sterile specimen.)

INFORMATION

A patient, male or female, may call the Doctor with the following symptoms:

1. A need to urinate often.
2. A continuous desire to urinate, even though little urine is passed.
3. A sudden, urgent need to urinate.
4. Burning or pain during urination.
5. Bed wetting or frequent wetting in children.
6. A fever of unknown cause.
7. Blood in the urine.

These symptoms may be accompanied by chills, nausea, vomitting, weakness and pain, tenderness across lower back. Check with your Doctor first; he/she will no doubt want to examine a sample of the patient's urine.

SEE IMPORTANT POINTS NEXT.

Some important points to remember when collecting or asking a patient to collect a sample of urine:

1. If the patient is at home, specimen should be collected in the morning right after awakening.
2. Urine samples are always collected "Mid-Stream". The patient voids a small amount into the toilet. Then, the second portion of urine is collected.
3. Urine should not be left standing at room temperature; it becomes alkaline and promotes overgrowth of bacteria.

INFORMATION

4. Place urine sample in refrigerator if lab tests are not done right away.

5. The Doctor will tell you if the urine specimen should be a "clean catch" or "catheterize" specimen.

Before going on with the mod, see the filmstrip and cassette BPC #1, frame 78 to the end.

JOB STEPS

1. Get your equipment and supplies and go to the lab area.

2. Ask a student to be your pretend patient.

3. In this mod, we will use a disposable urine container.

   NOTE: Different doctors have different containers to collect urine samples. Some doctors may use any of the following:

   1. Emesis basin
   2. Small round basin
   3. A pan that hooks under the toilet seat
   4. Paper cup
   5. Disposable sterile container

4. Before explaining steps 1 - 9 the M.A. should ask a female patient if she is menstruating or if she has a heavy vaginal discharge. If she says yes, check with the doctor again to see if he/she still wants a voided specimen.

   Say to your patient, "(student's name), Dr. Jones would like to examine a sample of your urine. Can you give me a sample now? He/she would like a clean catch sample. I'll tell you how. Be sure to follow these steps in the exact order."

   1. Wash your hands.

   2. Take and open towelettes (all three packages).

   3. Separate folds of your labia.

   4. Hold apart; with toilet tissue wipe straight down over urinary opening. Throw away.

   5. Use one towelette to wipe down one side of urinary opening. Then, throw away.

   6. Take second towelette to wipe opposite side of urinary opening. Then, throw away.

   7. Take the third towelette and, with one stroke, cleanse the center of the urinary opening. Throw away.

JOB STEPS

8. Void a small amount of urine into the toilet, stop flow, then void the urine into the specimen container that I gave you. Do not touch the rim or inside of the container. Void urine to fill 3/4 container.

9. Place lid on the container and bring back to examining room.

5. Give your patient the three towelettes, and specimen container. Tell her where the bathroom is located.

If your patient is a male, say: "I would like you to take these towelettes and container into the bathroom. Be sure to follow these steps in exact order:

1. Get a clean specimen, use the towelettes.

2. Hold back your foreskin.

3. Using one towelette, wipe along one side of the urinary opening. Then, throw away.

4. Take second towelette to cleanse opposite side. Throw away.

5. Use third towelette to clean meatus urinary opening.

6. After 5 minutes, check to see if your patient returned to the examination room.

7. Take the specimen to lab area. Then, prepare slide as you have learned in another mod. Mark with patient's name.

JOB STEPS

8. If you must send urine sample to another lab, follow these steps:

   A. Pour 2-3 ounces of urine into the special container.

   B. Fill out label with patient's name.

   C. Place label on container.

   D. Fill out request form.

   E. Place urine container in refrigerator until lab picks up the specimens.

9. Now, recall what you have learned. Do not write on this page. Write your answers on a separate sheet.

   1. _____ is the waste that the body does not want. It is made by the _____ and stored in the _____.

   2. As the bladder empties, urine is pushed out of the body. What is this called _____?

   3. "To void" means to _____.

   4. When you void first and collect second portion of urine, it is called _____.

   5. For a _____ _____ specimen, tell the patient to wipe each side of urinary opening and then, _____ _____ the towelettes.

   6. With the third towelette, wipe _____ over _____ of urinary opening.

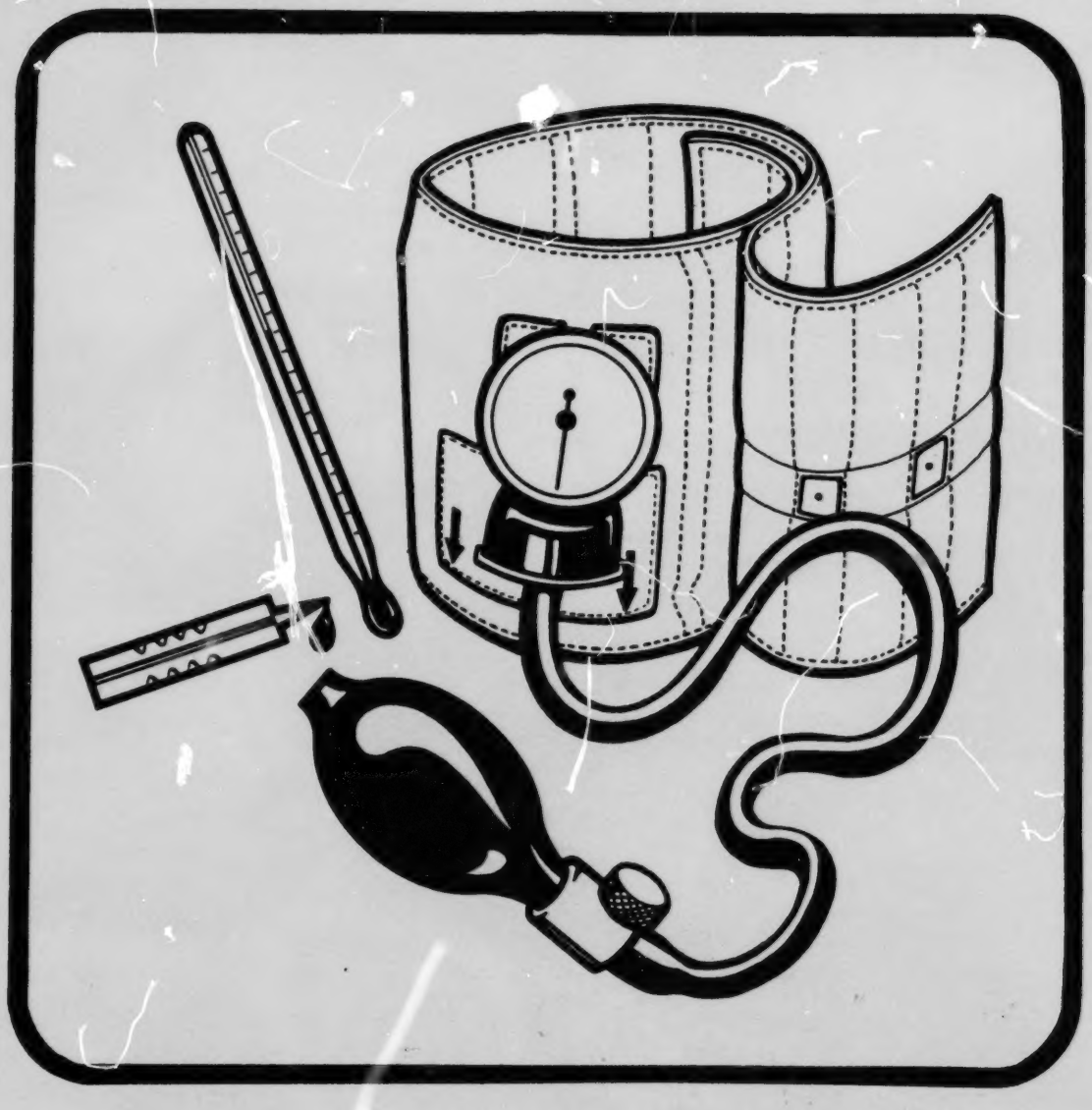
   7. If urine is not tested right away, place urine in the _____.

   8. All samples of urine should be _____ with patient's _____ and _____.

JOB STEPS

Answers to Job Step 9.

1. urine, kidneys, bladder
2. urinating
3. to urinate
4. mid-stream
5. clean catch, throw away
6. downward, center
7. refrigerator
8. labeled, name, date



medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 002 date: February 1977 level: _____

skill title: Instructing a Parent to Use an Infant Urine Collector

developed & written by: Pat Pittenger

visuals by: Kitt Depatie

PERFORMANCE OBJECTIVE

You are going to learn:

How to instruct a parent to use the infant or child urine collector.

And in order to do this you will need:

Infant urine collector

Infant doll

Person acting as a parent

Specimen bottle

Medicine cup

We will know you can do it when:

1. After your instructions:

   a. The parent can follow each step in securing the urine collector to the infant.

   b. Parent understands how to remove the collector, after child voids, without spilling urine.

   c. Parent has date and time to return for next appointment with the specimen.

INFORMATION

You are going to learn how to instruct a parent to use the infant urine collector.

Another name that some doctors and nurses may use is the P.U.C. (prounounced "puck") cup or Pediatric Urine Collector or cup.

JOB STEPS

1. Collect your equipment and materials.

2. After you read the mod completely, ask your instructor for a student to act as "parent".

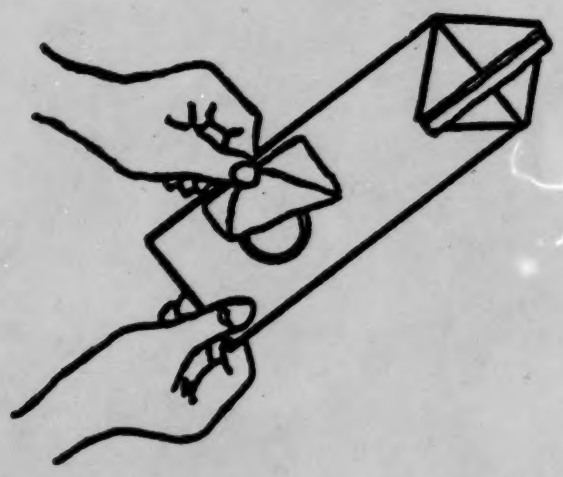
3. Tell the parent the doctor would like he/she to get a urine specimen from the baby. Tell he/she you will give the instructions now.

4. Get the infant collector. (Hold it for now.) Tell the parent to:

   A. Clean all grease (vaseline, lotion) from skin surrounding baby's urinary opening. Use warm, soapy water and then dry thoroughly; otherwise, the bag will not stay on.

      NOTE: Some parents will have to be shown how to do this.

   B. Now show the collector to parent. Tell and show how to remove backing paper, by lifting any corner.



JOB STEPS

C. On the male: the penis is pushed through the round opening in the bag, when in place, press gently but firmly, to seal area around the opening.

D. On the female: the round opening in the bag is placed so as to cover the upper half of the outside folds (labia). Press gently but firmly on skin around opening to seal.

E. The diaper can be reapplied over the bag. (Have parent check the bag often. The bag will not hold more than 4-5 ounces).

JOB STEPS

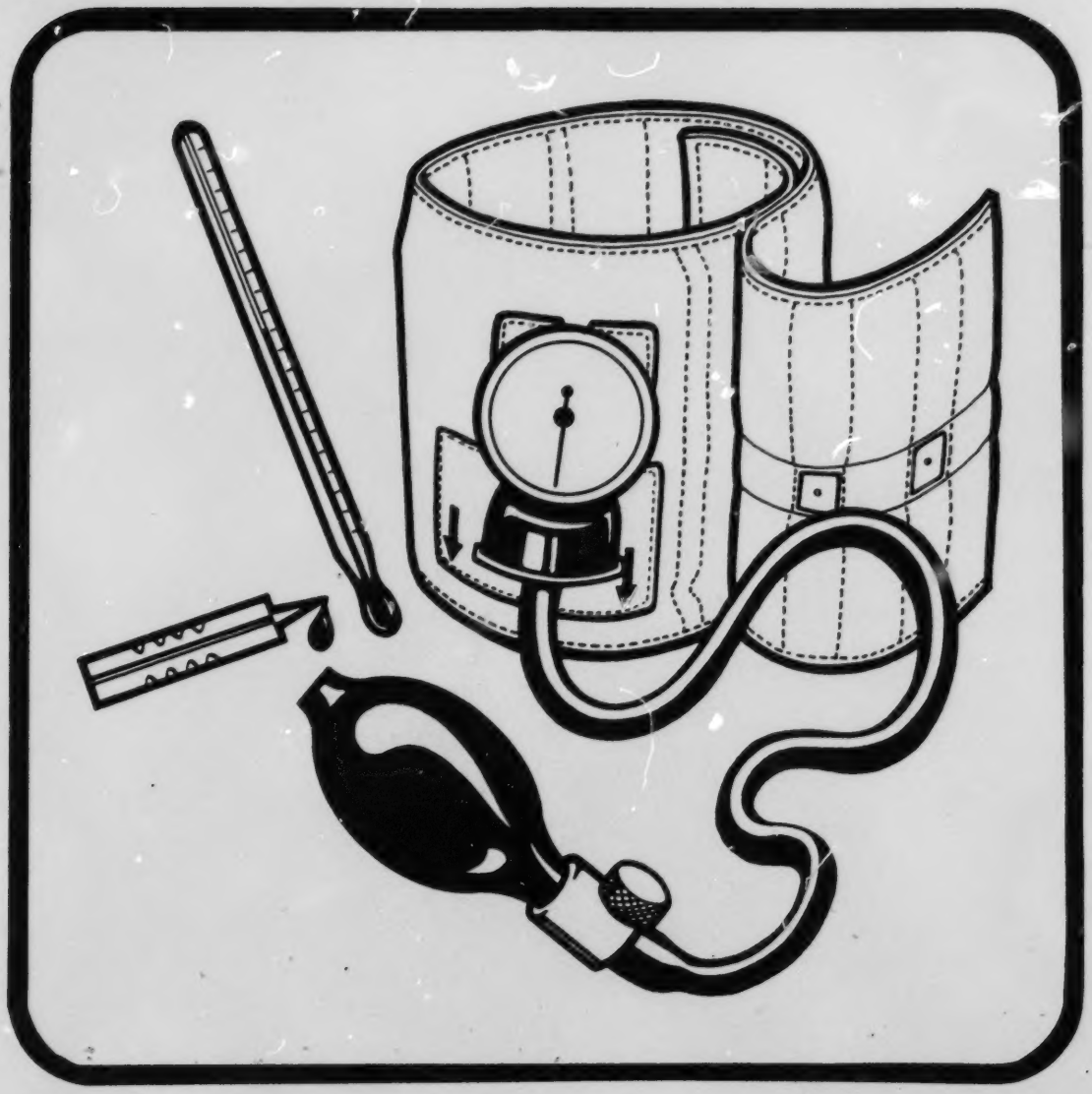
F. When the urine sample is obtained, remove the entire bag and fold the two "sticky" surfaces together -- if it does not seal together, pour urine into clean container.

G. Put specimen in refrigerator until time for doctor's appointment.

5. Ask the parent if there are any questions. If none, give her/him an appointment.

6. Practice until you know the instructions.

7. Now show your instructor what you have learned.



medical assistant

unit: DIAGNOSTIC TESTS

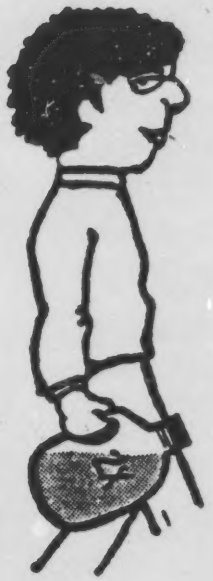
capital area career center

module: 4401 07 003 date: March 1977 level: II

skill title: Instructing a Patient to Bring a Urine Specimen From Home

developed & written by: Pat Pittenger

visuals by: Kitt Depatie



PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to instruct a patient to bring a urine specimen from home.

AND IN ORDER TO DO THIS YOU WILL NEED:

a person acting as a patient

two phones

WE WILL KNOW YOU CAN DO THIS WHEN:

1. The patient fully understands:

   A. How he/she should get a urine specimen.

   B. Patient can repeat the steps to you.

   C. You tell the patient when he/she should return to the office with the specimen.

WORD GUIDE

SYMPTOMS - Something that indicates the presence of bodily disorder, disease or physical disturbance.

INFORMATION

In this mod you are going to learn how to "instruct" a patient to bring a urine specimen from home.

Recall - A specimen is a sample or small amount of something. A specimen of urine is an ounce or two of urine.

SITUATIONS:

Many patients will call the doctor on the phone regarding an illness. They tell the doctor symptoms that may suggest diseases, for example, of the urinary tract, or diabetes. The doctor may want you to give instructions on "how to collect a urine specimen."

Ask your instructor for someone to act as patient after you have read the mod over once.

Then practice with your pretend patient until you know all the steps of instructions without looking.

JOB STEPS

1. Tell the patient the doctor would like to test a sample of his/her urine.

2. Tell the patient to follow these steps:

   A. Collect the sample right after he/she wakens in the morning.

   NOTE: Most urine tests should be tested on the first morning voiding. Urine is more concentrated then and more likely to show abnormal signs.

   B. Wash his/her hands before collecting the specimen.

   C. Use a clean jar or bottle that has been washed in hot soapy water and rinsed well. The container should have a wide opening, be sure 3-4 ounces in size, and have a lid or cap that fits tightly. Medicine bottles also can change results if not cleaned.

   NOTE: A jar that has had jelly in it can show a false positive for sugar.

   D. Females: Wash labia and urinary opening with soap and water. Males: Wash glans and penis.

   E. Remind them to be careful not to touch container to body.

3. Void a small amount first, then collect second portion of urine (Mid-stream) into specimen bottle. Fill the bottle with 2-3 ounces or half full.

4. Put the cap or lid on the bottle and be sure the lid is tight.

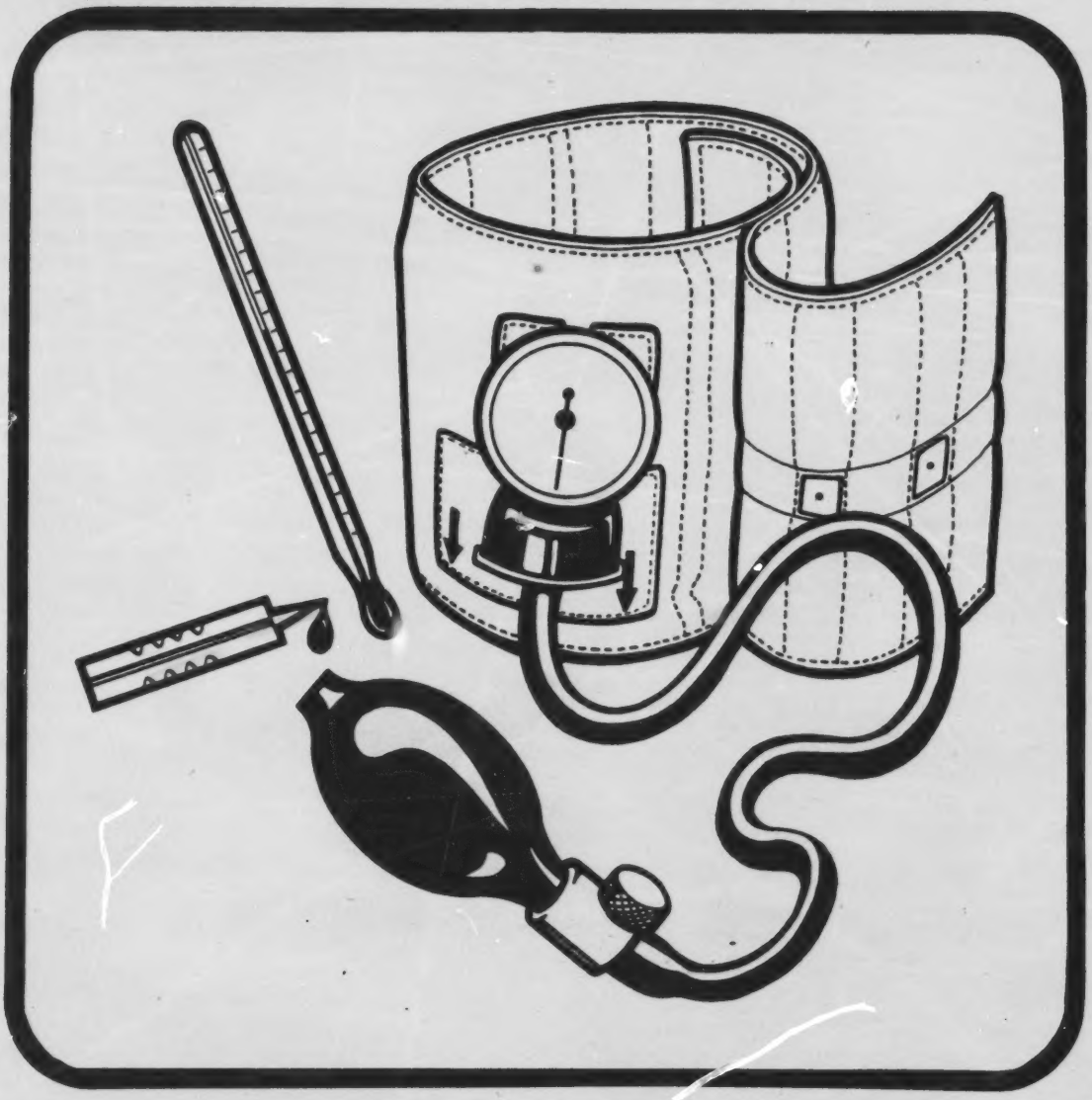
5. Wipe off any urine on outside of bottle.

JOB STEPS

6. Put the urine specimen in the refrigerator until time to leave for the doctor's office.

7. Ask the patient to tell you the steps. Then you will know if he/she understands.

8. Tell the patient the time and date of his/her appointment.



medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 005 date: March 1977 level: _____

skill title: How To Test Urine for Specific Gravity

developed & written by: Pat Pittenger

visuals by: Kitt Depatie

WORD GUIDE

MENISCUS - The curved upper surface of a volume of liquid.

PERFORMANCE OBJECTIVE

You Are Going To Learn:

How to test urine for specific gravity.

And In Order To Do This You Will Need:

a urine specimen, labeled

a cylinder

a urinometer

patient's record or chart

pen

sink with counter area

soap

paper towels

We Will Know You Can Do It When:

1. The cylinder is filled 3/4 full of urine.
2. The urinometer is spun gently.
3. The urinometer does not touch or stick to the side of the cylinder.
4. You read it where the lower line of the meniscus crosses the scale on the urinometer.
5. You can read it within 1/10 point without a mistake.

WORD GUIDE

DILUTE - To thin down or weaken a solution.

CONCENTRATE - To thicken or strengthen a solution.

INFORMATION

In this mod you will learn how to test the urine for specific gravity. Read the mod first before you practice.

In some doctor's offices the specific gravity is done with the routine urine test. In others it is done only when the doctor orders it to be done.

One of the functions of the kidneys is to concentrate and dilute the urine.

If the kidneys fail to do this special function, the specific gravity test would indicate a possible impairment.

The specific gravity test is, in very simple terms, measuring the weight of urine. Specific gravity will vary during the day, as fluid intake determines the concentration or dilution of urine. Specific gravity is measured with a "urinometer."

It is a glass float with a stem and a mercury bulb at one end. The stem is marked with a scale from 1.000 to 1.040.

JOB STEPS

1. Collect the tools you need in the lab area - see page 2 for the list.

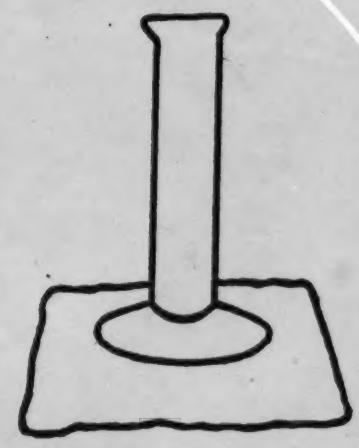
2. Place a paper towel on the counter.

3. Carefully remove the urinometer from the box.

4. Place your urinometer on the paper towel.

   NOTE: Urinometers roll and break very easily!

5. Take your cylinder and place it on the paper towel.



6. Pick up your urine specimen. Before you remove the lid, shake gently, but mix urine well.

JOB STEPS

7. Remove the lid and slowly pour the urine into the cylinder, filling it 3/4 of the way.

8. Now take your "urinometer" by the tip of the stem with bulb facing downward and place it in the urine.

9. With your thumb and forefingers (index) take the tip of the stem and give it a gentle spin, causing the float to "spin."

   NOTE: This prevents the float from adhering (sticking) to the sides of the cylinder.

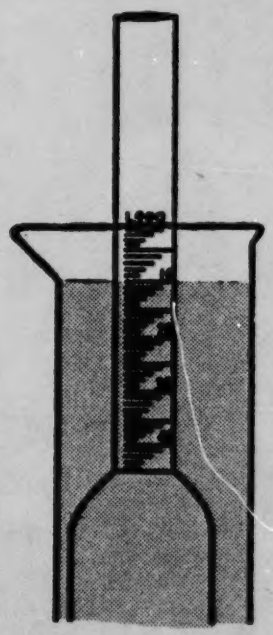
JOB STEPS

10. Place the cylinder so it is at your eye level--or bend down so your eyes are level with the level of the urine in the cylinder.

11. Read the specific gravity:

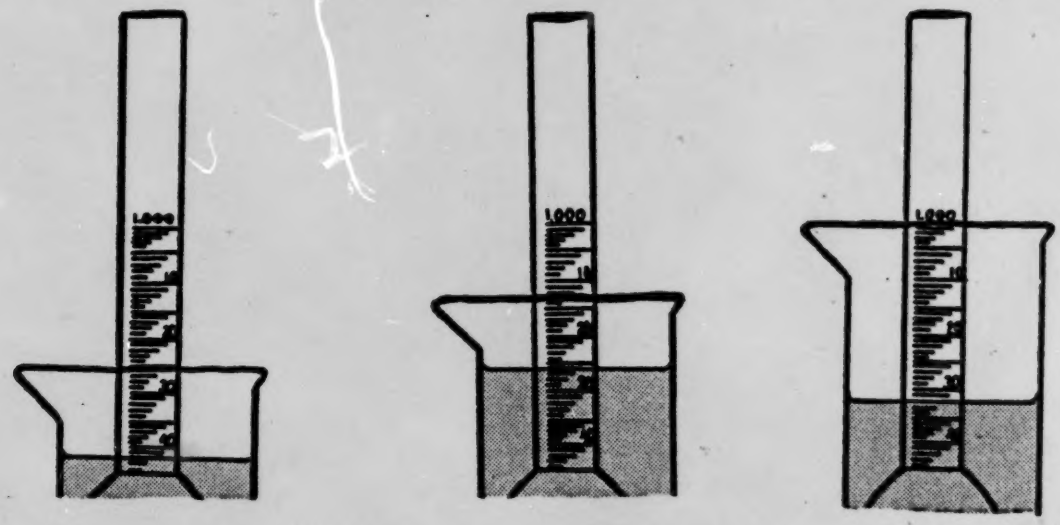
    Imagine a line drawn at the point where the lower line of the meniscus crosses the line (scale) on the urinometer.

12. Look at the picture. The specific gravity is 1.010.



JOB STEPS

13. Now take a scrap piece of paper and pencil and look at the next three pictures. Write down the specific gravity on each picture.



14. Have your instructor check your readings.

15. If you get them all right you are ready to test a urine sample.

16. Now go back and do the job steps with a practice patient.

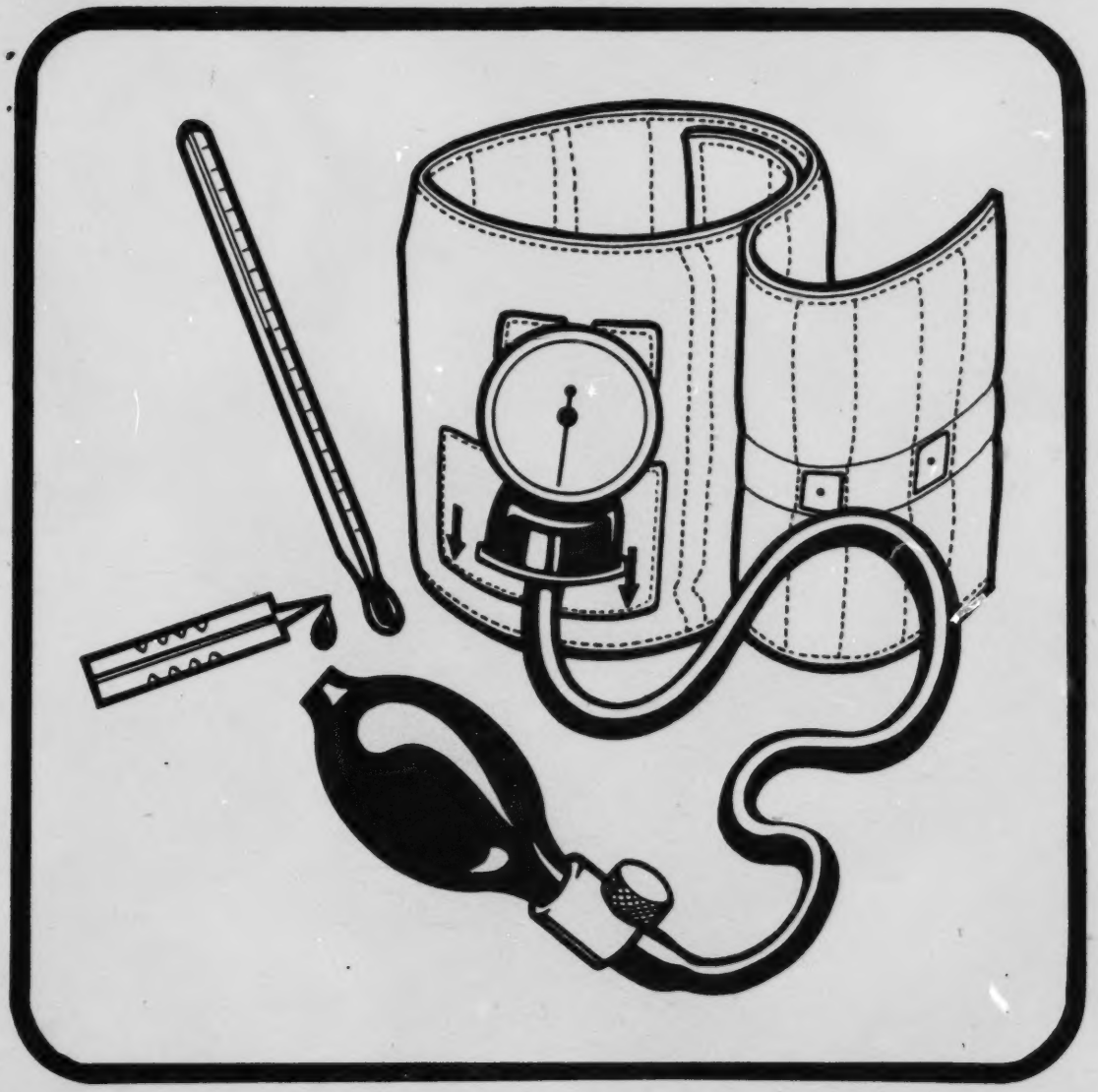
17. Write the reading on the patient's chart.

18. Pour the urine in the cylinder into the toilet.

19. Wash the urinometer and cylinder. Remember--Handle Carefully!

20. Turn the cylinder upside down on the paper towel to dry. Dry the urinometer and put it away.

21. Wash your hands!



medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 006 date: March 1977 level: II

skill title: Testing Urine for Sugar and Acetone Usine Tablets

developed & written by: Pat Pittenger

visuals by: Sandra Starnaman

WORD GUIDE

GTTS - drops.

PERFORMANCE OBJECTIVE

You are going to learn:

How to test urine for sugar and acetone.

And in order to do this you will need:

specimen container with urine sample
bottle of clinitest tablets
clinitest color chart
bottle of acetest tablets
acetest color chart
1 test tube
test tube holder
paper cup or glass medicine cup for water
medicine dropper
watch with sweep second hand
counter & sink with water
soap - paper towel
pen
patient's chart
waste basket

We will know you can do it when:

When testing the urine for sugar and acetone, you:

1. Use 5 gtts of urine, 10 drops of water and 1 clinitest tablet for the sugar test.
2. Use 1 drop of urine, and 1 acetest tablet for the acetest test.
3. Time sugar reaction according to directions.
4. Watch reaction in test tube the entire time.
5. Match color reaction in test tube to clinitest color chart.
6. Match color reaction of acetest tablet with acetest color chart.
7. Write down test results on patient's chart.

WORD GUIDE

HEREDITARY - A family history of a disease that is passed on.

INSULIN - A hormone or chemical substance.

INFORMATION

You are going to learn how to test urine for sugar and acetone.

The sugar and acetone tests are often called S and A tests. The short abbreviated form is written S/A. S and A's are always done with a routine urine check. Sometimes a doctor will order just a S and A on a patient who he/she thinks might have diabetes (di-a-be-tes).

Diabetes is a hereditary disease. The body is unable to use food in the normal way; the body does not have enough insulin (in-su-lin). Insulin is produced by a gland in the abdomen called the "pancreas" (pan-cre-as). Insulin is released by the pancreas into the bloodstream to regulate the rate at which the body cells use and store sugar. Normally, our digestive juices change sugar and starches into a form of sugar called "glucose" (glu-cose). This sugar, which comes from the food we eat, supplies the energy that our body cells need to maintain life. The body cannot use and store glucose without the help of insulin. When a person has diabetes, this bodily process is defective:

A. The body does not produce enough insulin.
B. The body does not make proper use of the insulin that is produced.

As a result, the un-used sugar collects in the blood; some of it may overflow into the urine. Too much sugar in the blood and urine may be a sign of diabetes. Too much sugar in the blood is called hyperglycemia (hi-per-gli-ce-me-a). Too much sugar in the urine is called glycosuria (gli-co-sir-e-a).

If diabetes is not controlled, serious complications may develop leading to acedosis. Acedosis is the collection of too much diacetic acid and acetone, or ketones in the body.

Normally, people do not have sugar or acetone in their urine.

JOB STEPS

1. Go to the lab area and collect the equipment and materials you will need.

2. Before testing for sugar and acetone, practice using the medicine dropper by doing the following:

   A. Fill the medicine cup with water.
   B. Squeeze the rubber bulb on the end of the dropper.
   C. Dip the end of the dropper into the water and slowly release the pressure on the rubber bulb, filling the dropper with water.
   D. Hold the dropper over the test tube in an up-right position, and gently squeeze the rubber bulb allowing only one drop of water to fall into the test tube at a time. Let 10 drops fall into the tube.

   Practice until you can do step 2 quickly and accurately; then go on to step 3.

3. Place urine sample on paper towel on the counter.

   NOTE: When doing urine tests for sugar and acetone the following steps must be followed exactly.

JOB STEPS

4. Remove the cap from the bottle of clinitest tablets.

   NOTE: Never touch clinitest tablets with your fingers, the tablets will burn your fingers. Never let water or moisture touch the cap or bottle. Water ruins the tablets. Look at the tablets, they should be light blue in color. If the tablets are dark blue, they are not good. Check the expiration date. If you have just purchased them, (and find they are dark blue), return the bottle to the supplier.

5. Pick up medicine dropper by the rubber bulb.

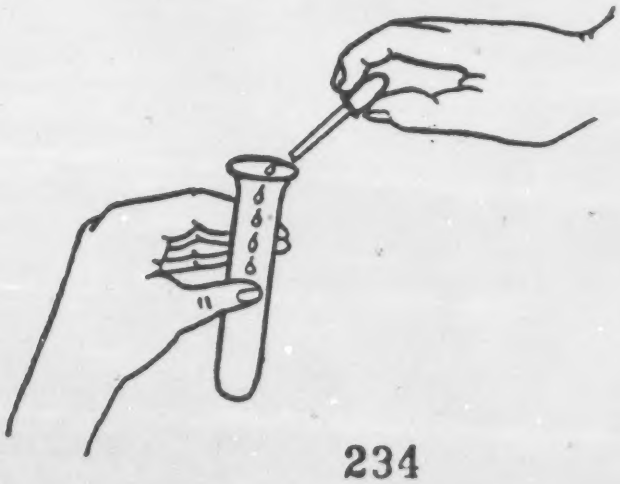
6. Dip open tip of the dropper into the urine, "squeeze" the bulb.

7. Slowly release the pressure on the bulb until the dropper half fills with urine.

8. Hold the tip of the dropper over the test tube, remember to hold the dropper straight up and down.

9. Gently squeeze bulb to make drops of urine come out one-by-one.

10. Drop exactly 5 drops of urine into test tube.



JOB STEPS

11. Squirt the rest of the urine back into the specimen container.

12. Hold the tip of the dropper under running water with the tip up - squeeze and unsqueeze bulb many times to rinse out the dropper. Then, add 10 drops of water in the test tube with the urine.

JOB STEPS

13. Put the dropper on the paper towel.

14. Place your watch where you can see the second hand.

15. A. Pick up bottle of clinitest tablets in one hand.

    B. Pick up cap in other hand.

    C. Remember not to touch tablet. Pour one tablet from the bottle into the cap.

16. Drop the one tablet into the test tube.

JOB STEPS

17. Watch the test tube at all times. Note the color of the solution as it boils. Do not touch or shake test tube as boiling action takes place.

    NOTE: If the boiling solution was orange, brown or greenish brown at any time, write down 4+ or + + + + sugar.

18. When the solution stops boiling, check the second hand on your watch or clock.

19. Exactly 15 seconds after solution stops boiling, shake test tube gently and then compare color to color chart. See attached charts.

    You do not match the test tube to the color chart if the boiling solution "passed through" these colors. See color chart for directions.

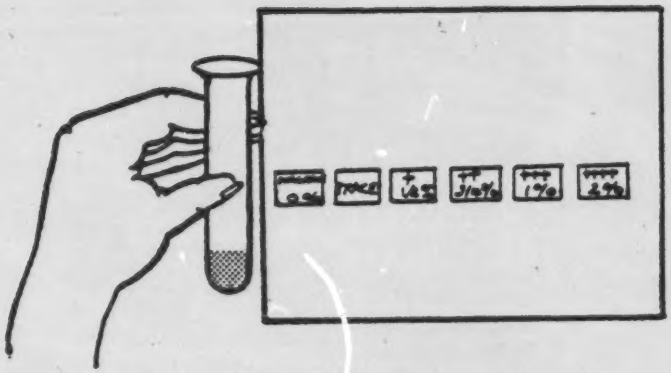
    If the boiling solution did not "pass through" the color changes you match the solution to the color chart by following the next steps.

20. Pick up clinitest color chart in one hand.

21. Pick up test tube in other hand.

JOB STEPS

22. Hold the test tube over each color on the color chart.



23. Find the color on the color chart that matches color in the test tube.

24. Look at the matching color on the chart and write down the top line that is printed on the color.

    You can use these short terms:

    negative - neg.
    trace - tr.

    + - 1+
    ++ - 2+
    +++ - 3+
    ++++ - 4+

    NOTE: Remember when sugar is present, the liquid will change color. The more sugar, the greater the change and the more rapidly it occurs. Color changes developing after the 15 second waiting period are not counted.

25. Put cap on clinitest bottle.

JOB STEPS

26. Empty test tube into the sink. Rinse test tube under running water. Shake out the extra water.

    NOTE: Tubes should be washed with soap and water and then stored.

27. Place test tube open end down on test tube holder.

28. Now take the bottle of acetest tablets and remove the cap.

29. Remember do not touch the tablet. Pour one tablet into cap. Place this tablet on the paper towel.

30. Recap the bottle right away.

    NOTE: Moisture on tablets will affect the results.

31. Pick up medicine dropper, fill half full of urine.

32. Drop one drop of urine on top of the tablet.

JOB STEPS

33. As the drop strikes the tablet, check the second hand on the watch, wait exactly 30 seconds.

34. Empty the dropper into urine specimen container while you wait.

35. Lay the dropper on the paper towel.

36. After 30 seconds, hold the acetest color chart near the tablet.

37. Match the color of the tablet to the chart.

38. Write down the word that is above the color that matches.

Positive - Shades of purple, you can use these short terms:

Small - Sm.
Moderate - Mod.
Large - Lg.

Negative - No purple color is seen

39. Record results on Patient's chart. Example:

Mary James
3-20-77 S/A 3+/Neg.

40. Rinse medicine dropper under running water. Dry.

41. Replace dropper and test tube in kit.

42. Throw paper towel and tablet away.

JOB STEPS

43. Empty urine specimen into toilet if all tests are completed.

44. Wash hands.

DO NOT WRITE YOUR ANSWERS IN THE MODULE

Now recall what you have learned:

1. The short term for sugar and acetone test is _____.

2. Sugar and starches are changed by our _____ _____ into a sugar called _____.

3. Too much sugar in the urine may be a sign of _____ disease.

4. A medical term for sugar in the urine is _____.

5. There are two color charts.

   1.
   2.

6. You use _____ drops of water for the sugar or clinitest test, and _____ drops of urine.

7. If the boiling solution turns orange brown, greenish brown the test result is _____.

8. If the solution does not "pass through" these colors you must _____ the solution to the _____ _____.

9. You match the color chart to the test tube exactly _____ _____ after the solution stops boiling.

10. You use _____ drop(s) of urine for the acetone test.

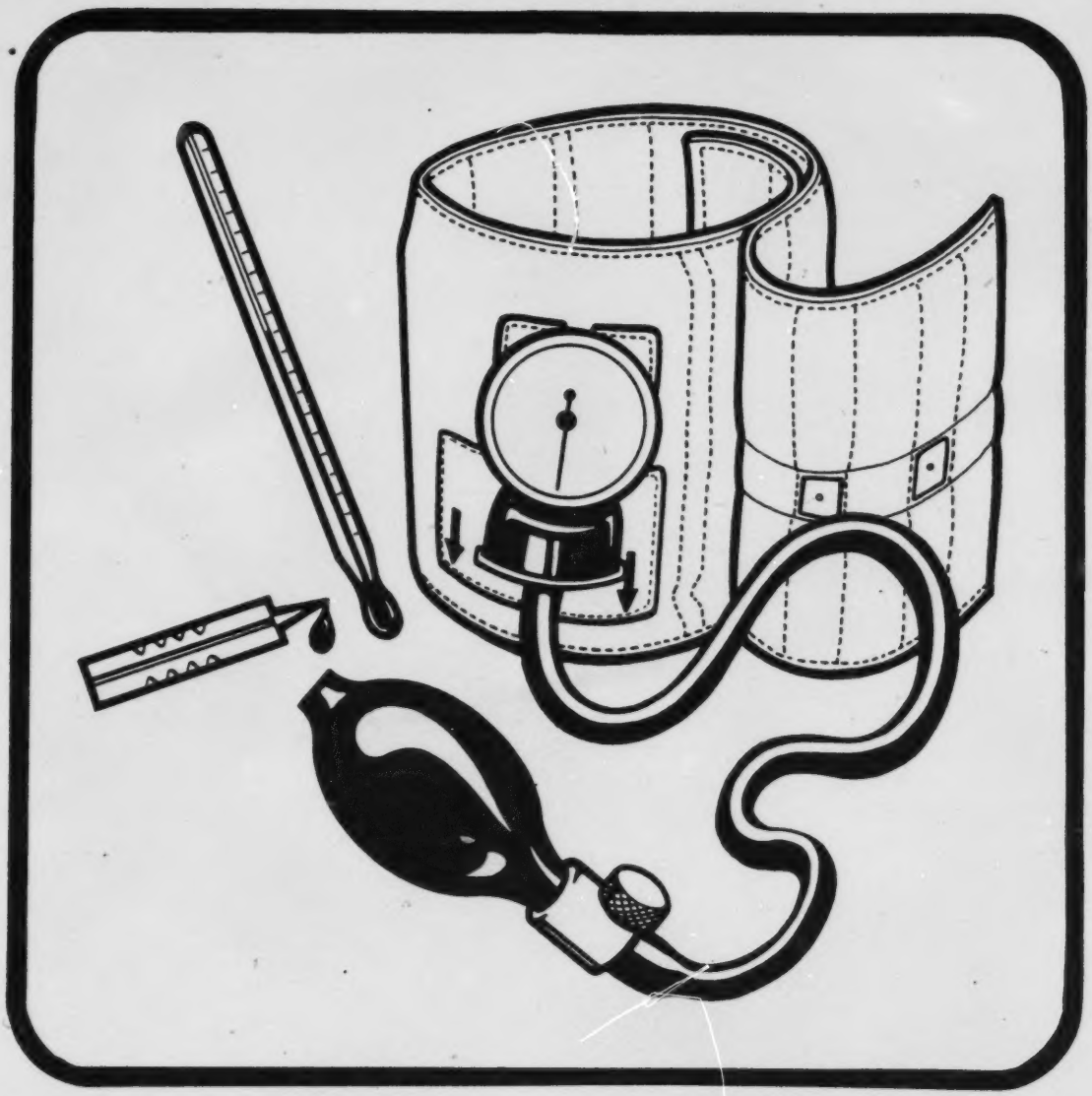
11. If the tablet does not change color, the test is _____.

<u>We will know you pass when</u>:

Given a urine sample, you show your instructor you can test urine for sugar and acetone without a mistake.

Answers to test

1. S/A
2. Digestive juices
   glucose
3. Diabetes
4. glycosuria
5. clinitest
   acetest
6. 10
   5
7. 4+
8. match
   clinitest chart
9. 15 seconds
10. 1
11. Neg.



medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 007 date: March 1977 level: II

skill title: How to Prepare a Urine Slide for Microscopic Exam

developed & written by: Pat Pittenger

visuals by: Sandra Starnaman

PERFORMANCE OBJECTIVE

You are going to learn:

How to prepare a urine slide for microscopic exam.

And in order to do this you will need:

Urine sample in container	Pen
Centrifuge tube	Patient's chart
Centrifuge in Histology lab	Sink, counter area
Microscope	Soap
Glass slide, cover slip	Paper towel
Urine	

We will know you can do it when:

1. The urine is mixed well before placing in centrifuge tube.
2. Centrifuge tube is filled with 10 cc of urine.
3. Centrifuge runs for 4 minutes at 1,500 rpm.
4. Urine is poured back in urine container from tube.
5. Tube is tapped gently to mix sediment.
6. One drop of urine is placed on slide with a plastic cover over it.
7. Slide is placed under microscope.
8. Microscope is focused and ready for the doctor to view the sample urine slide.
9. Slide is removed and cleaned after the doctor has finished viewing the slide.

WORD GUIDE

SEDIMENT - Material that settles in the bottom of a liquid.

MICROSCOPE LENS - Lens of the microscope which is an instrument used to magnify samples for diagnostic purposes.

INFORMATION

In the doctor's office lab there is usually a microscope. It is used to examine urine sediment, do blood cell counts and examine smears.

You have already learned how to use a microscope in another mod. You may need to practice putting a slide under the lens, touching only the edges of the slide.

Practice until you know how to place slide under microscope so drop of urine is centered under the lens.

If you do not need to practice continue reading the mod.

1. Place one drop of urine on a clean slide.
2. Place slide under microscope so drop of urine is centered under the lens.
3. Focus so that the drop of urine is seen clearly.

WORD GUIDE

CENTRIFUGE - A machine used to spin a urine specimen

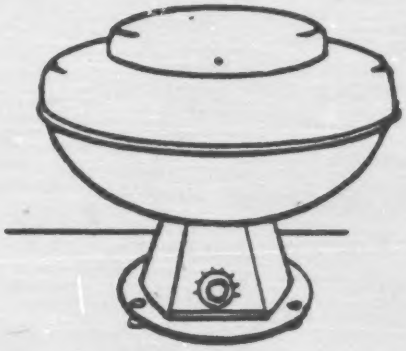
CENTRIFUGE TUBE - A tube to place the the urine into the centrifuge.

JOB STEPS

1. Take your mod with you. Go the the lab area. Get the equipment and materials you will need. The list of equipment is on page 2.

2. Place urine sample-medicine cup on paper towel.

3. First look at the drawing of the centrifuge.



4. Go to the Histology Lab. Ask your instructor first.

5. Bring back to your lab, the two centrifuge tubes you will be using:

   a. 1 centrifuge tube for the urine.
   b. 1 centrifuge tube to counterbalance for the water.

JOB STEPS

6. Place tubes on paper towel.

7. Carefully shake the bottle or container to mix urine well.

8. Pour 10 cc of urine into a medicine cup.

   NOTE: If you do not have 10 cc of urine, pour what you have into centrifuge tube and balance with same amount of water in the tube that is placed opposite.

9. Remove cap from centrifuge tube, pour the 10 cc of urine into tube, replace cap.

10. Hold tube in one hand.

11. With your free hand, turn on water, fill medicine cup with 10 cc of water. Shut off water.

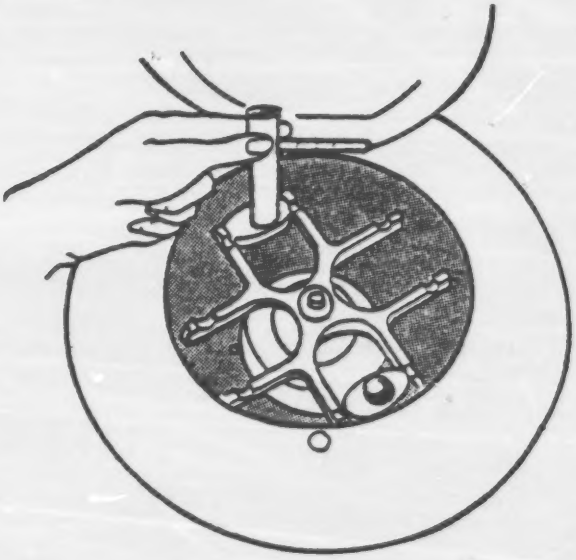
12. Pour 10 cc of water into the empty centrifuge tube.

13. With your instructor return to Histology Lab.

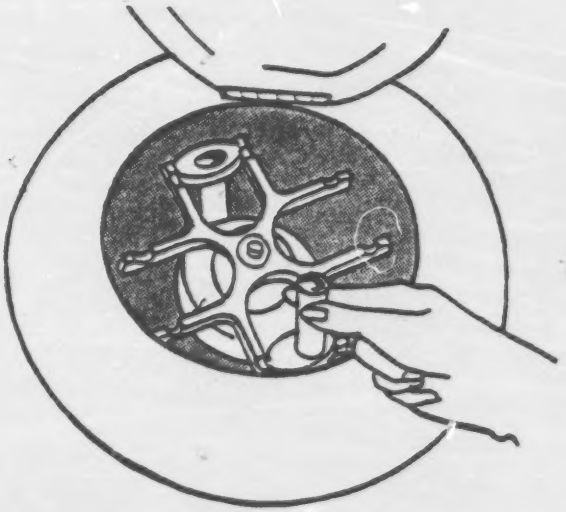
14. Open the lid on the centrifuge.

JOB STEPS

15. Place the centrifuge tube with the urine into one of the empty "brackets."



16. Place the tube with the water into the metal bracket exactly opposite the tube with the urine.



17. Close the lid on the centrifuge.

WORD GUIDE

RPM - Revolutions per minute.

JOB STEPS

18. Turn the dial to 1,500 rpm.

19. Time the spinning for 4 minutes.

    NOTE: Some offices have a timer with a bell you can set;otherwise, check the time on a watch or clock. Do not let it spin for longer than 5 minutes. Prolonged spinning may cause the machine to become off-balance.

20. Turn the machine off after 4 minutes.

21. When the machine has stopped spinning, lift the lid.

22. Remove the tube with the urine. Then take the tube to your lab.

23. Pour the urine back into the specimen container.

    NOTE: One or two drops should be left in the tube. Do not shake or tap tube to remove sediment yet.

WORD GUIDE

GLASS SLIDE - A flat piece of glass made to fit into a microscope.

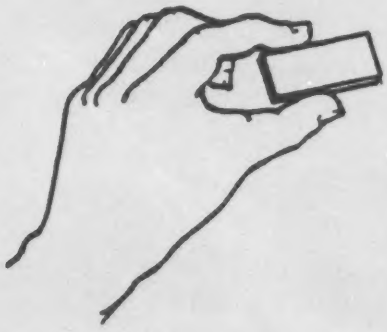
JOB STEPS

24. Holding the tube open end up, tap the tube with your finger or the other hand.

NOTE: The remaining drops should flow down into the sediment on the bottom.

25. Pick up the glass slide. Use your finger tips to touch only the edges of the slide.

NOTE: Fingerprints show up on the slide when put under the microscope. Be sure slide is clean, dry and free of dust and lint.

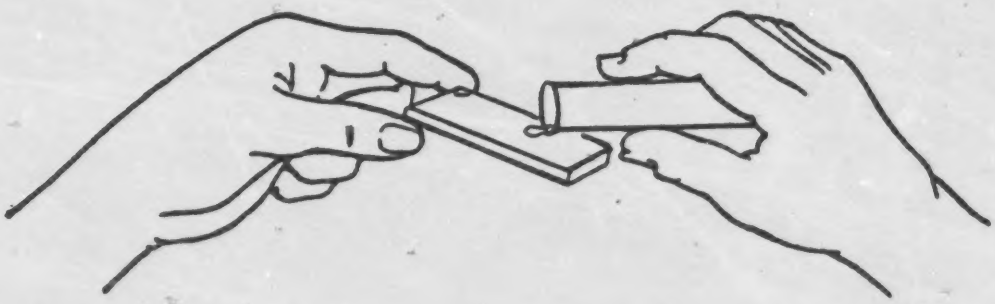


WORD GUIDE

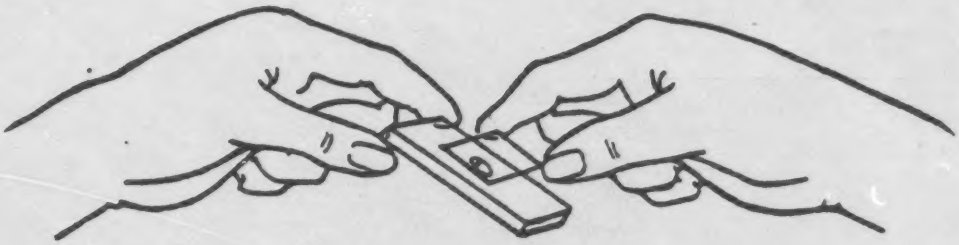
COVER SLIP - A small thin piece of glass with which specimens are covered.

JOB STEPS

26. Tip up the centrifuge tube onto the slide and tap the end of the tube with your finger until a drop of urine comes onto the slide.



27. Carefully place a cover slip over the top of the urine drop.



JOB STEPS

28. Place the slide under the microscope lens.

29. Turn on the microscope light.

30. Focus the microscope to view the specimen.

31. Turn the microscope light off until the doctor is ready to view the specimen.

32. After doctor views slide, remove and rinse slide under running water. Then wash with detergent disinfectant, rinse well, dry and place in slide box as holder.

33. Rinse the centrifuge tube under running water. Wash with soap and water until all sediment is removed. Rinse tube well in warm water, turn upside down to air dry. Return the tube to the Histology Lab.

34. Save the urine specimen until all urine tests have been completed.

35. Clean equipment as you have learned.

36. Return equipment to the lab cupboard.

37. Wash your hands.

38. Now, show what you have learned. Answer the questions on the following page.

Recall what you have learned:

The answers are upside-down at the bottom of this page.

1. The urine must be _____ _____ before placing in the centrifuge tube.

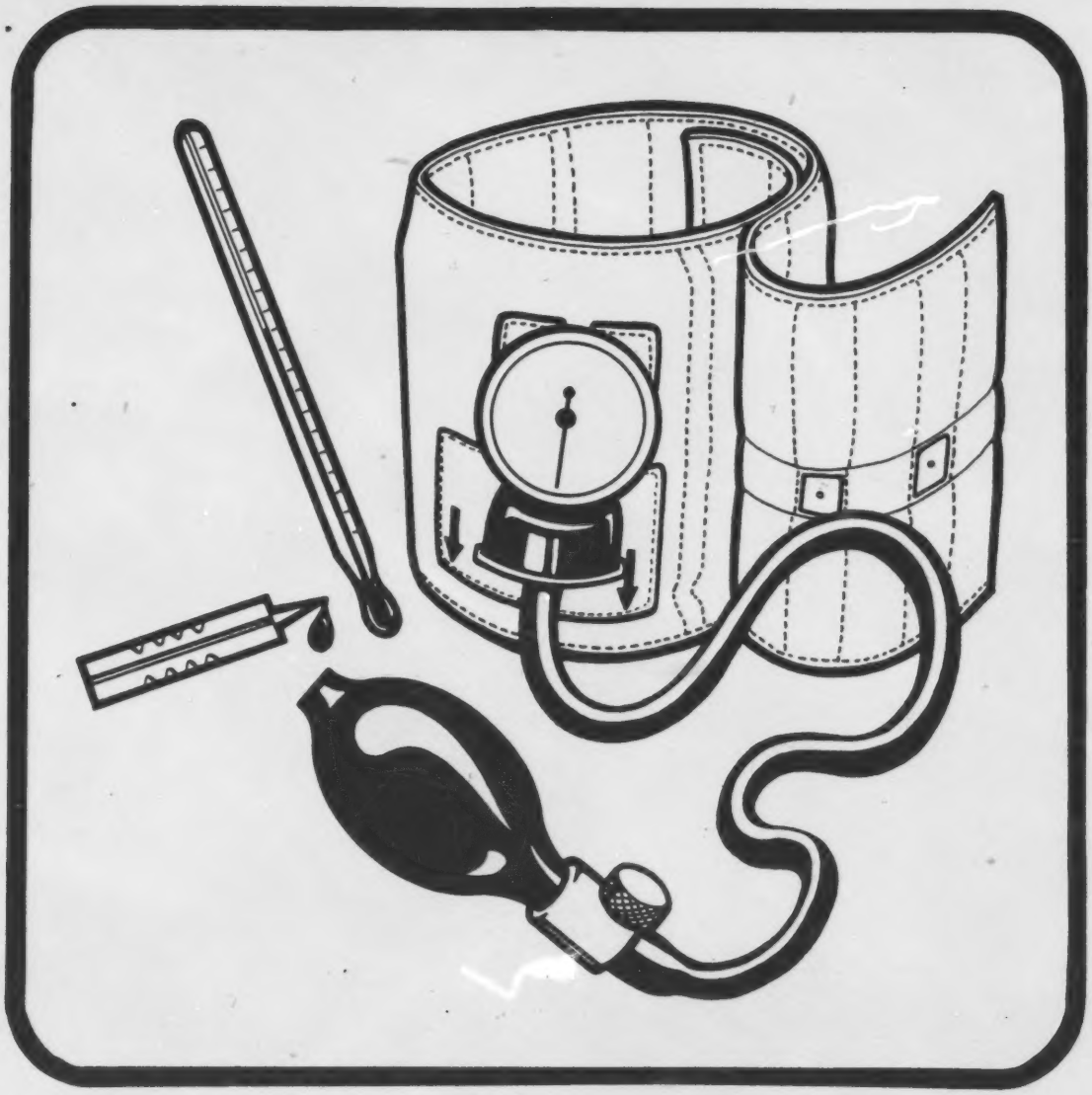
2. If you fill one centrifuge tube with 10 cc of urine, how much water do you pour in the opposite tube? _____

3. The centrifuge machine is turned on for _____ minutes.

4. All the urine is poured _____ of the centrifuge tube and the _____ at the bottom of the tube is used for the sample.

5. Only _____ _____ of urine is placed on the slide for viewing.

Answers: 1. mixed well 2. 10 cc 3. 4 4. out, sediment
5. one drop



medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 008 date: April 1977 level: II

skill title: How to Test Urine for Sugar, Acetone, and Protein

developed & written by: Pat Pittenger

visuals by: Sandra Starnaman

WORD GUIDE

REAGENT TEST STRIP - A thin plastic strip with chemically treated areas for testing urine.

PERFORMANCE OBJECTIVE

You are going to learn:

How to use reagent test strips for testing urine.

And in order to do this you will need:

Specimen container with sample of urine

Bottle of Uristix Reagent Strips

Paper towel

Sink and counter area

Pen

Patient Chart

Waste basket

Watch with second hand

We will know you can do it when:

1. You use a fresh well-mixed urine sample.
2. You correctly dip test area on stick into urine.
3. You carefully match test areas to color chart on bottle.
4. You chart results of test on right patient's chart.

WORD GUIDE

GLUCOSE - Sugar

PH - Acid or alkaline.

INFORMATION

There are many different test strips used for testing urine.

1. N-Multistix
2. Labstix
3. Uristix
4. Keto-Diastix
5. Diastix

These are all tests for testing a patient's urine. These are sometimes referred to as Dip - and - Read Tests.

Test results provide information about a patient's carbohydrate metabolism, kidney and liver function, acid-base balance of urine and presence of bacteria in urine. The test strip is made of plastic. Each strip has separate, small, colored squares or blocks. Some have 3-4 squares; other test sticks may have 8 squares for 8 different tests.

Test results may often include protein. Protein appears in normal urine, sometimes, when the patient has been exercising, has been exposed to excess cold, or has eaten a large amount of protein. It also appears in a number of kidney diseases and other abnormal body conditions. It should always be called to the attention of the doctor when it is present.

The method for using different test strips is the same. Always read the directions enclosed with the bottle of test strips.

NOTE: Directions must be followed exactly!

We use Uristix in our lab to test for glucose and protein.

Recording examples:

5/19/77 Uristix negative

or

5/19/77 Uristix - glucose - trace
protein - neg.

or

5/19/77 Uristix - glucose - neg.
protein - 3+

JOB STEPS

1. Collect your materials.

2. Open one paper towel and spread out on counter area.

3. Place urine container with sample of urine on paper towel.

4. Remove the cap from the Uristix bottle.

5. Take one test strip from the bottle. Do not touch test strip blocks.

6. Immediately, and tightly replace the cap.

   NOTE: Protection against moisture, light and heat is required to guard against wrong reactions.

7. With thumb and forefinger, hold test strip at the clear end.

JOB STEPS

8. With your other hand, hold urine container with urine sample. Gently shake a few times to mix urine well.

9. Place urine container on paper towel.

10. Dip test strip in urine, so test blocks are completely covered.

11. To avoid dissolving test area, immediately remove test strip.

12. To remove excess urine, tap edge of strip against side of urine container.

JOB STEPS

13. Hold the strip in a horizontal position.

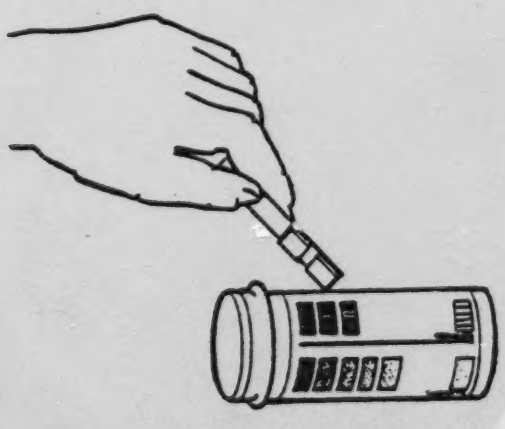
    NOTE: This will prevent a possible mixing of the different chemicals in each test block.

14. Look at side of stick with small colored blocks (not the smooth side).

    NOTE: Check second hand on watch and wait required amount of seconds indicated for each test.

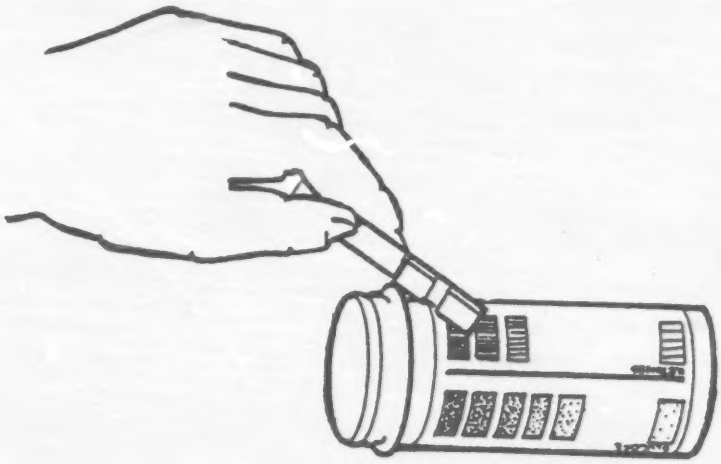
15. Closely compare test strip areas with color charts on the bottle at specified times.

    NOTE: Certain colors intensify for a short time, then fade. For reading each test, follow directions on bottle.



JOB STEPS

16. Hold strip close to color blocks on the bottle. Match carefully and read in a good light.



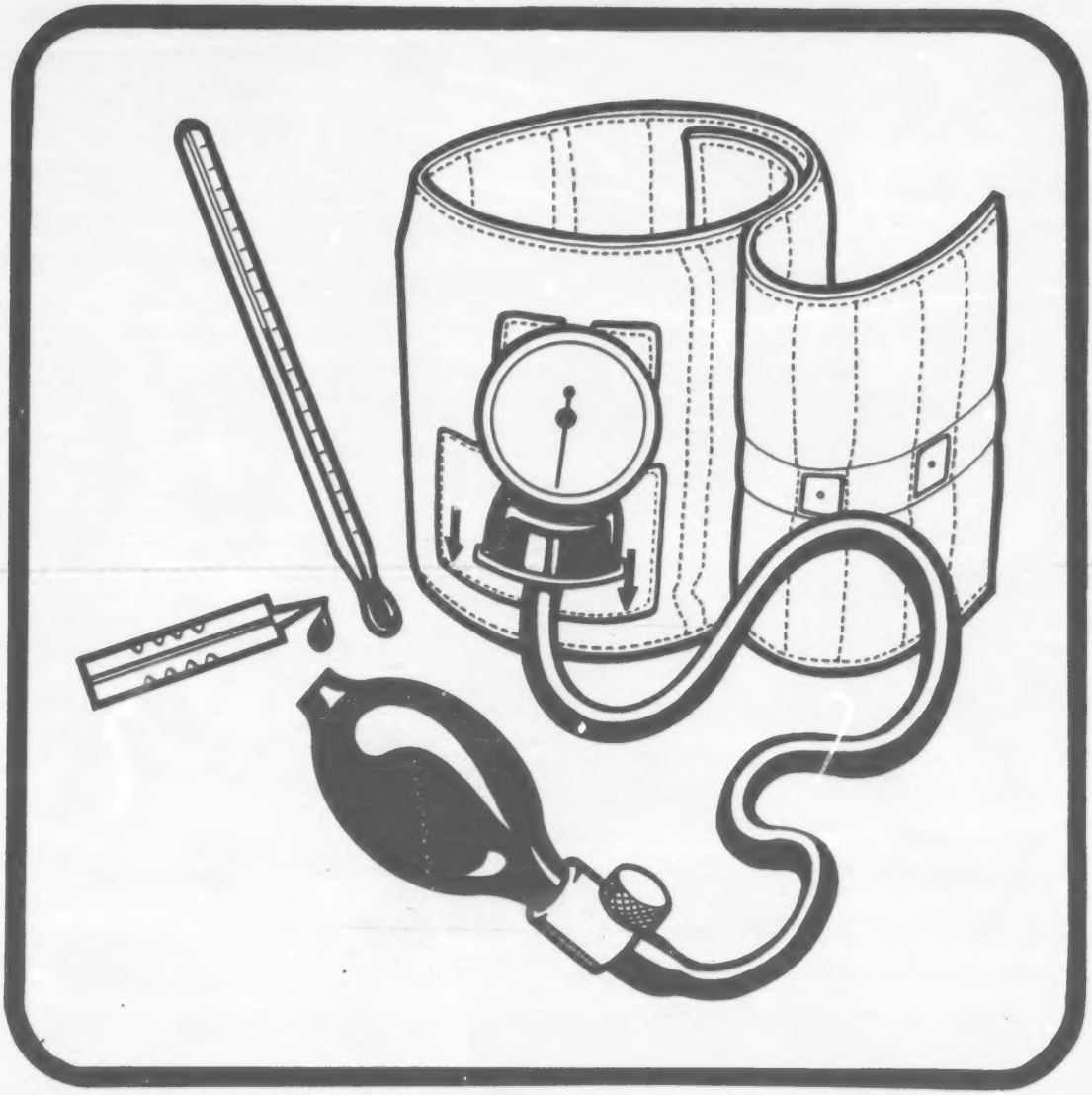
17. Write the results, date and your initials on the right patient's chart.

18. Throw away used test strip with paper towel.

19. If no other tests are needed, throw urine in toilet.

20. Wash container with detergent and disinfectant. Rinse well, air dry.

21. Wash your hands!



medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 009 date: May 1977 level: II

skill title: How To Run A Hemoglobin Test

developed & written by: Pat Pittenger

visuals by: Mary Ann Gamel

WORD GUIDE

HEMOGLOBIN - (short term Hgb.) The oxygen carrying pigment of the blood; the principal protein in erythrocytes.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to do a hemoglobin test

AND IN ORDER TO DO THIS YOU WILL NEED:

A person acting as a patient

Two sterile, individually wrapped microlances

Small container of dry cotton balls (sterile)

Small container of cotton balls soaked in 70% isopropyl alcohol (sterile)

Hemolysis (hi-mal-e-ses) sticks

Hb-meter with blood chamber

Container for used - "throw away" sharps and needles

Patient's chart

Pen

Waste basket

WE WILL KNOW YOU CAN DO THIS WHEN:

1. You choose correct site for the skin puncture.
2. You properly prepare the puncture site.
3. You correctly microlance so that the blood flows freely.
4. You use the hemolysis stick for the correct amount of time.
5. You use the Hb-meter correctly and your reading is accurate.
6. You record the results on the patient's chart.

WORD GUIDE

HEMATOCRIT - (hem-et-o-krit) (short term Hct) - "To separate blood," cellular elements are separated from the plasma - their size capacity and number of cells are studied.

HEMATOLOGY - Study of the blood.

INFORMATION

In this mod you are going to learn how to puncture a finger in order to get a blood sample for a hemoglobin test.

Due to the increasing amount of clinical laboratories, most doctors will perform a few simple blood tests in their office. Testing a patient's hemoglobin is one test that doctors will include in the physical exam.

If a patient's hemoglobin is low, he/she may be anemic. The Doctor will then try to find out the cause of the anemia

There are many different ways to perform a hemoglobin test. It is your responsibility to learn how the Doctor does it in his/her office. The method for getting a sample of blood, by puncturing a finger, will be the same.

Important points to remember:

A. Viral hepatitis can be passed by using a dirty instrument to cut the finger. Use only sterile instruments!

B. The disposable individually wrapped, sterile lancets are used most often.

C. Do not use needles, rounds pins, dull or rusty knife blades.

D. Sites for puncture: middle or ring finger, ear lobes, large toe, infant's heel.

In this mod, we use the Hb-meter (and a sterile microlance) for testing a patient's hemoglobin.

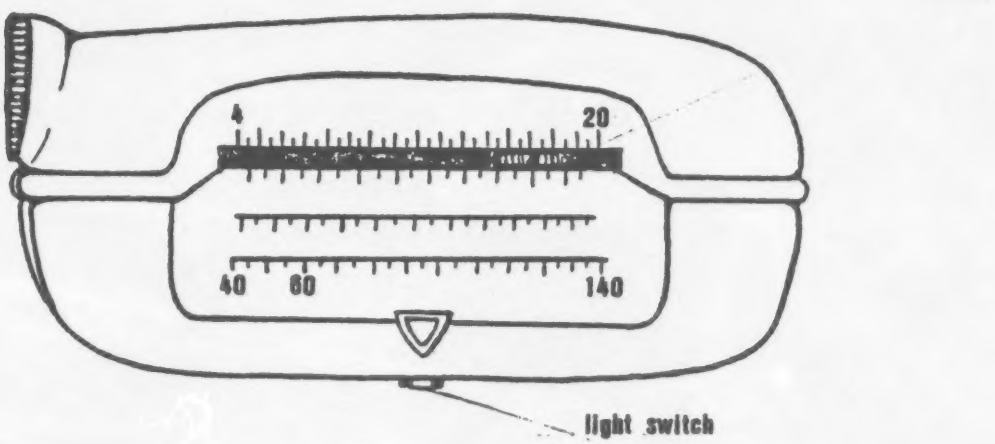
READ:

The Nurses Guide to Diagnostic Procedures, pages 74-76.

JOB STEPS

1. Read the mod through once. Then, collect the materials you will need and go to your lab area.

2. Carefully hold the Hb-meter. Find the parts labeled in the picture.



3. Using your left hand, hold up the meter to your eye. Press light switch with your left thumb.

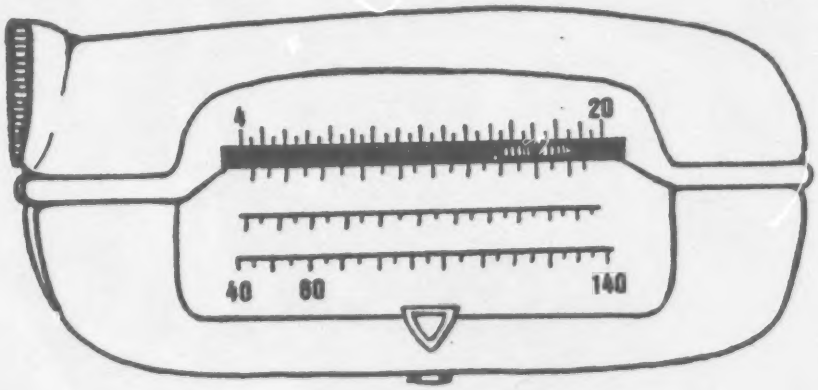
JOB STEPS

a. Using your right hand, move the slide button away from the eye piece until it is directly below the arrow, at the end of the top scale.

b. Look into the eye piece and check to be sure the entire field is well lighted.

NOTE: Have your Instructor help you if you need to make an adjustment.

4. Now, look at the right side of the meter.



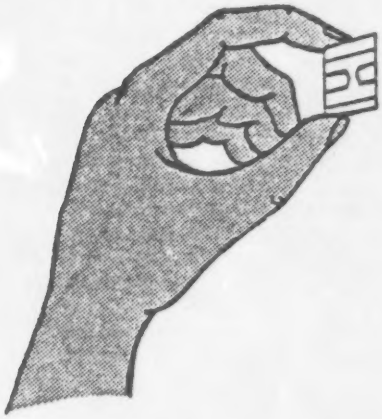
JOB STEPS

NOTE: The meter has four different scales:

A. A scale graduated in grams Hb per 100 ml of blood (above the slide button)

B. A percentage scale appears (below slide) for 15.6 grams - 14.5 grams and 13.8 grams equal to 100%.

5. Locate the blood chamber.



A. A cover plate

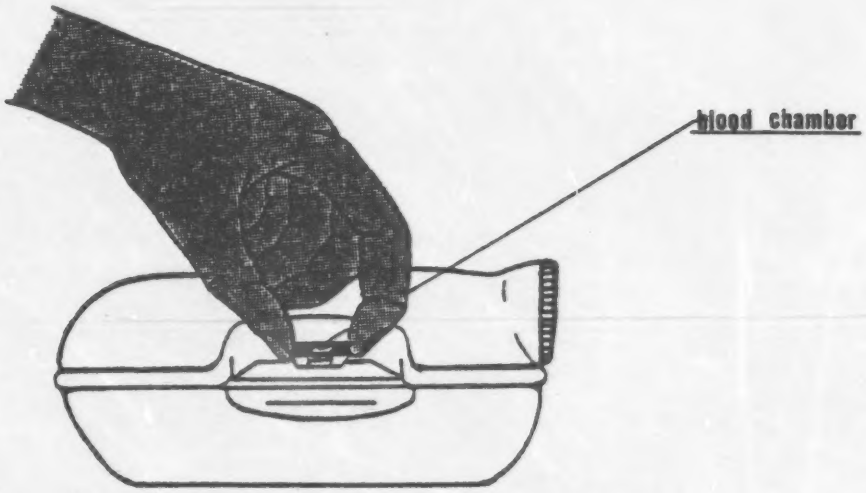
B. Double sided chamber with a H-shaped moat

C. A clip

NOTE: To prevent smearing and unclean surface that will cause slight errors in the reading, the chamber and cover glass are placed tightly together and held in place by the clip.

JOB STEPS

6. Practice inserting the chambers and clip in the slot on the left side of the instrument.



If you feel confident using the meter, continue to the next step.

7. Go to your examining room. Ask a classmate to be the patient.

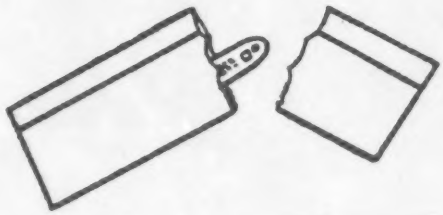
8. Wash your hands.

9. Inform the patient on what you will be doing. Have the patient sit on the edge of examining table.

10. Pull out the blood chamber halfway from the clip and place on clean paper towel.

JOB STEPS

11. Carefully open the microlance wrapper. Do not take the microlance out of the wrapper. Place near your reach on the table.



12. Select a finger. Usually the middle finger is best.

    NOTE: The thumb and index finger are calloused, and it is difficult to get a good sample of blood.

13. Moisten cotton ball with acetone or ether. Hold cotton in your right hand.

14. If your patient's hands are cold, have the patient wash his/her hands in warm water or gently massage the finger. Massage the finger.

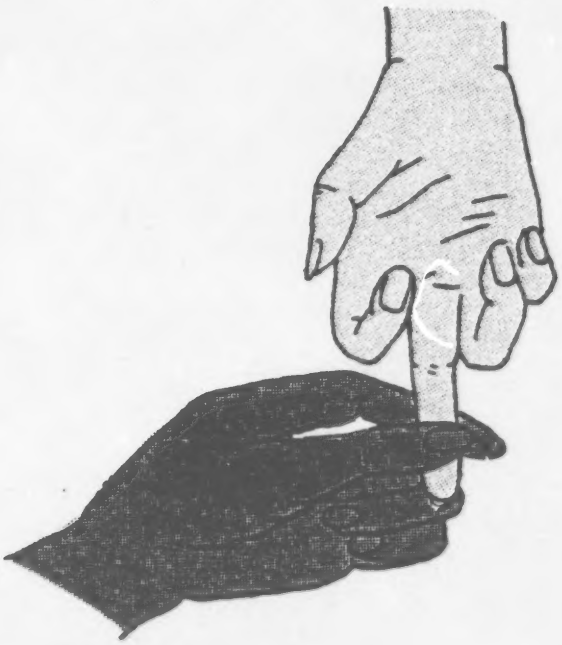
JOB STEPS

15. Holding finger in your left hand, cleanse the end of the finger with your moist cotton ball. Then, throw away.

16. Using clean, dry cotton balls, dry end of the finger. Then, throw away.

17. Carefully take the microlance out of the wrapper and hold it in your right hand. If you contaminate the end of it, throw away and open another one.

18. Stand in front of the patient. Firmly hold the patient's middle finger in your left hand (Place your fingers on the left hand under patient's middle finger; place thumb on top of patient's finger).



JOB STEPS

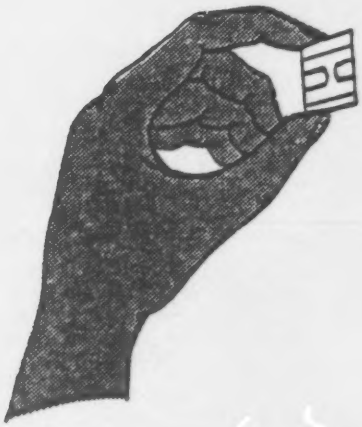
19. Holding the microlance with your thumb and forefinger, use a quick stabbing stroke to puncture finger.

    NOTE: Hold blade at a right angle to the "finger print" lines on the finger. Do not stab directly in middle of fingertip.

20. Put the microlance in wrapper.

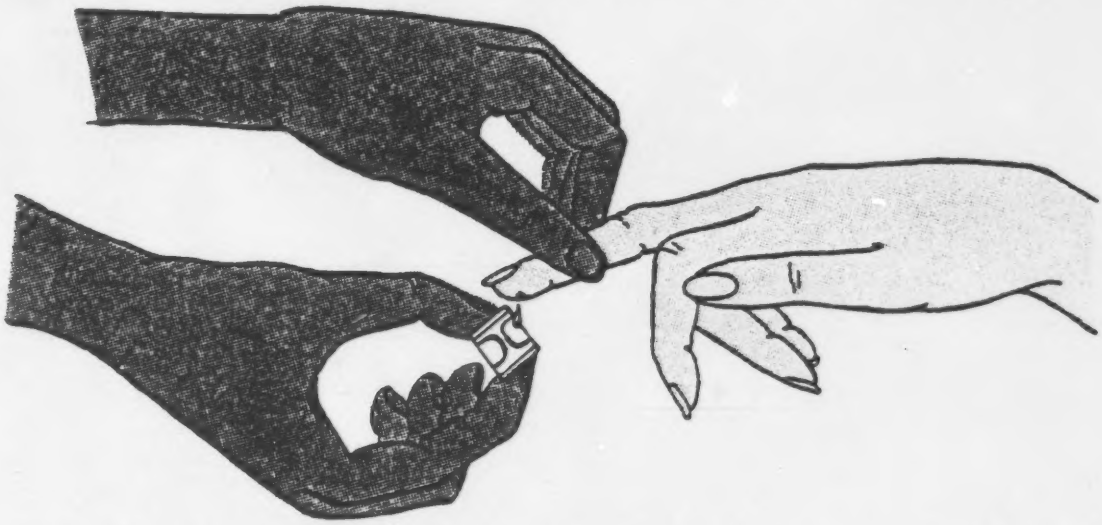
21. Using dry cotton ball, wipe away the first drop of blood.

22. Hold the blood chamber in left hand.



JOB STEPS

23. Place the patient's fingertip over the blood chamber, so a good, full drop of blood will be dropped onto the surface.



24. For blood to flow freely, apply gentle pressure at a distance from the wound.

NOTE: Do not squeeze the finger. Squeezing frees the tissue juices, which dilutes the blood and causes inaccurate results.

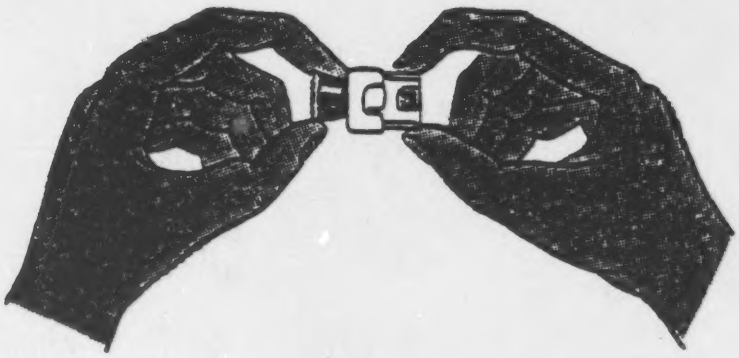
25. Place a dry, cotton ball over the stab wound. Inform the patient to tightly hold cotton over the wound for a few minutes.

JOB STEPS

26. Using the pointed end of a hemolysis stick, gently stir the blood until the blood becomes transparent or cloudy.

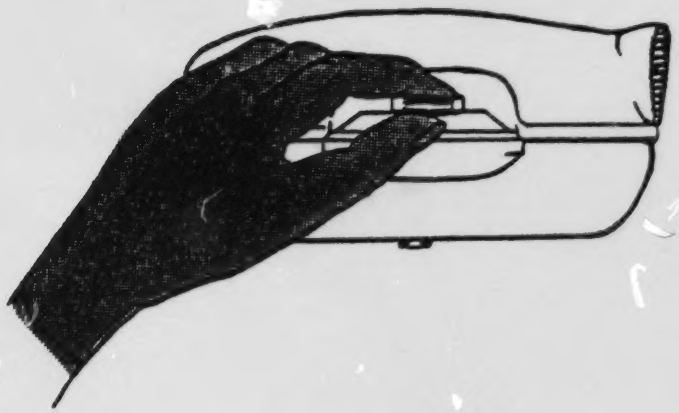
NOTE: About 30-45 seconds.

27. Completely push the chamber back into the clip.



JOB STEPS

28. Insert the complete clip into the slot on the left side of the meter.



29. Hold the meter, as you have learned, in your left hand with left thumb on light switch button. Hold up to your eye.

30. Using left thumb, press the light switch. A green slip field will appear.

31. Using your right hand, slowly slide the button, on the right side of the meter, until the split field or two halves appear equally light and appear as a single field or as one field.

32. Look at the position of the index mark on the slides button. The numbers above the slide button indicate the hemoglobin in grams. Record this number on the patient's chart.

    Example:
    5/10/77 Hgb. 10 gms.

    Have your Instructor check your reading.

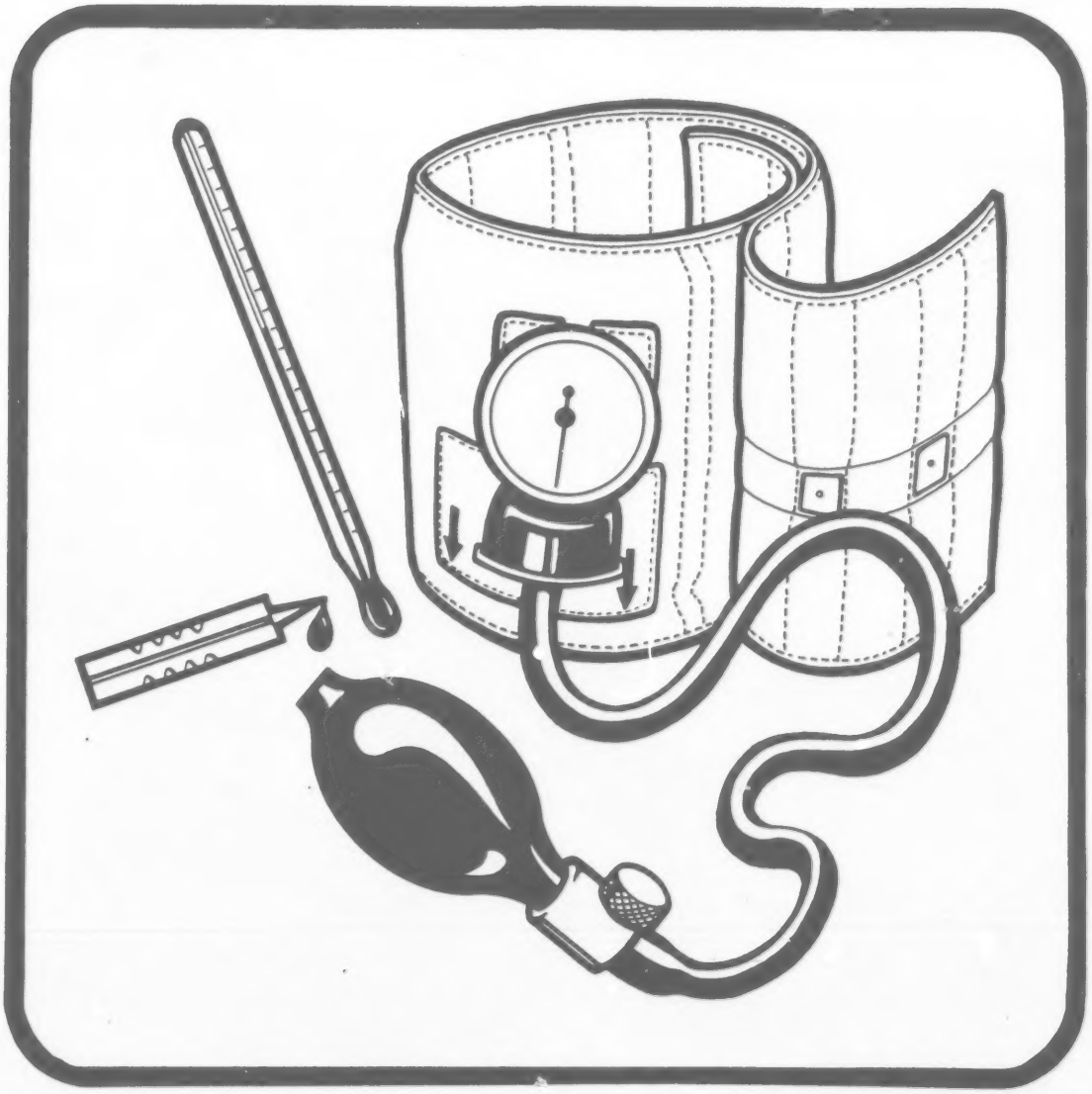
33. Carefully wash blood chamber under running water. Using a lint-free tissue, dry and replace it with the meter in case.

JOB STEPS

34. Put used microlance in container for "dirty" sharps.

35. Wash your hands.

36. Straighten up examining room for your next patient.



medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 010 date: April 1977 level: II

skill title: How To Receive and Prepare A Throat Culture

developed & written by: Pat Pittenger

visuals by: Sandra Starnaman

WORD GUIDE

M.D.P.H. - Michigan Department Public Health

APPLICATOR - Wooden stick with a cotton tip at one end.

CULTURE - Small germs growing in a lab prepared solution.

SILICA GEL - A solution or material that "keeps" or preserves.

PERFORMANCE OBJECTIVE

You are going to learn:

How to prepare a throat culture.

And in order to do this you will need:

M.D.P.H. sterile package for nose-throat cultures:

- request form
- sterile cotton tip applicator
- envelope with silica gel inside
- pre-addressed envelope to M.D.P.H.

tongue blade	box for state lab specimens
flash light	dressing stand
patient's chart	towel (paper or cotton)
black ball point pen	2 people acting as Doctor & patient

We will know you can do it when:

1. You put nose or throat culture inside white foil envelope without touching cotton end.
   a. You secure cotton tip in crystals.
   b. Stick is not broken.
   c. You place specimen in brown envelope.
2. You label specimen envelope with the patient's name.
3. You completely fill out request form in black ink.
4. You place specimen envelope in right box for M.D.P.H pick-up.

WORD GUIDE

ASEPTIC - Preventing infection.

INFORMATION

Many people go to the doctor when they have a "bad" cold.

The doctor may do a nose or throat culture to help him/her find out what kind of germ is causing the cold. The two most common germs found on nose and throat cultures are the streptococcus (strep) and staphlococcus (staph).

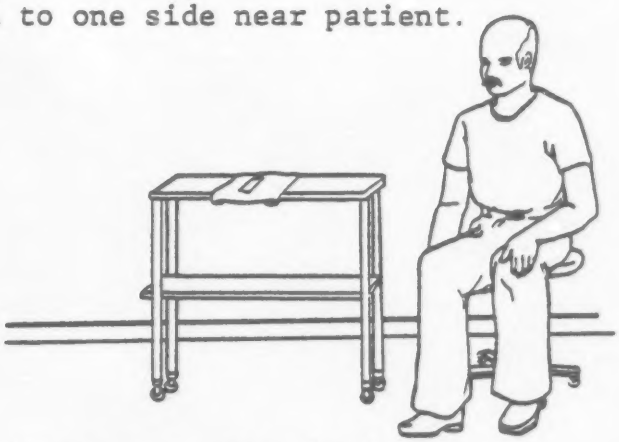
These germs can spread easily from one person to the next, so practice good handwashing and aseptic techniques.

JOB STEPS

1. Collect your materials.

2. Have your "pretend" patient in the exam room with the doctor.

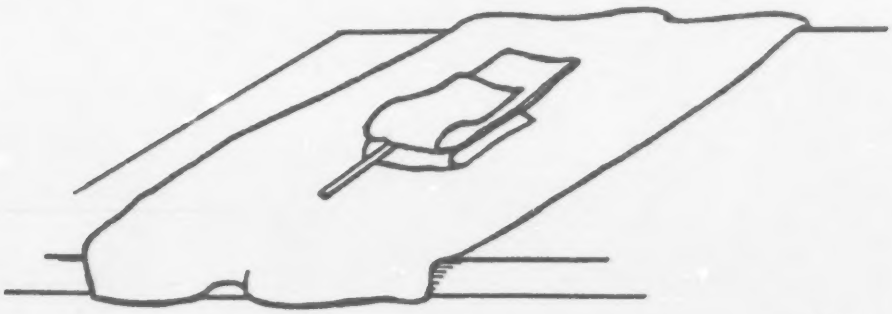
3. Place dressing stand to one side near patient.



4. Open a clean towel and place on the stand.

5. Put a flash light, tongue depressor and sterile wrapped applicators (or a special kind of applicator from the laboratories) on the towel.

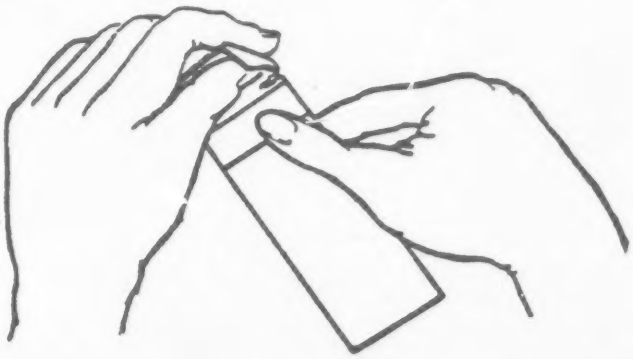
6. To open applicator package, tear the end without the cotton tip and peel back half way. Then place on towel.



JOB STEPS

7. While the doctor is taking the culture, pick up the small white envelope with the silica gel crystals inside.

8. Tear the envelope above the tape.

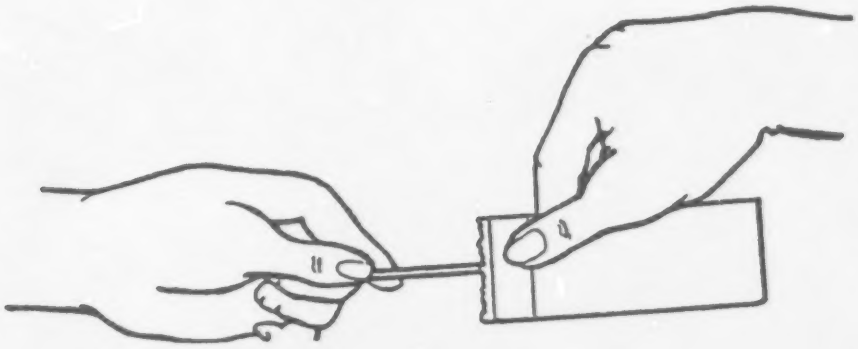


9. After the doctor takes the throat culture, he/she will hand you the applicator.

10. Take the end of applicator stick from the doctor. DO NOT TOUCH THE COTTON TIP END.

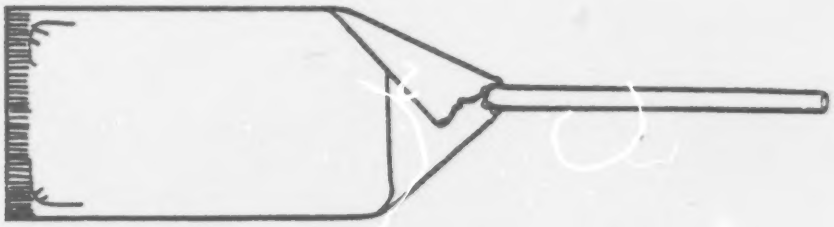
JOB STEPS

11. Immediately, place applicator, cotton tip down, into the small white envelope you have opened. Do not break off stick. Be sure cotton end is secured in the crystals.



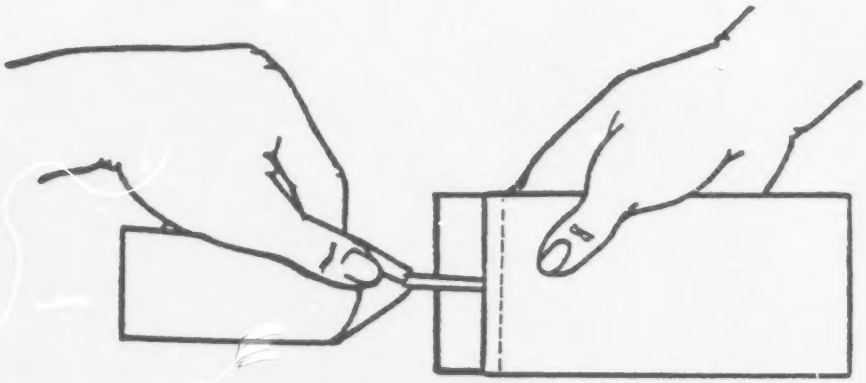
12. Still holding envelope, peel off tape. Use your fingernail to get under the layer of paper.

13. Tightly fold one side of envelope around and over stick, onto the "sticky" area. Fold the other side over stick.

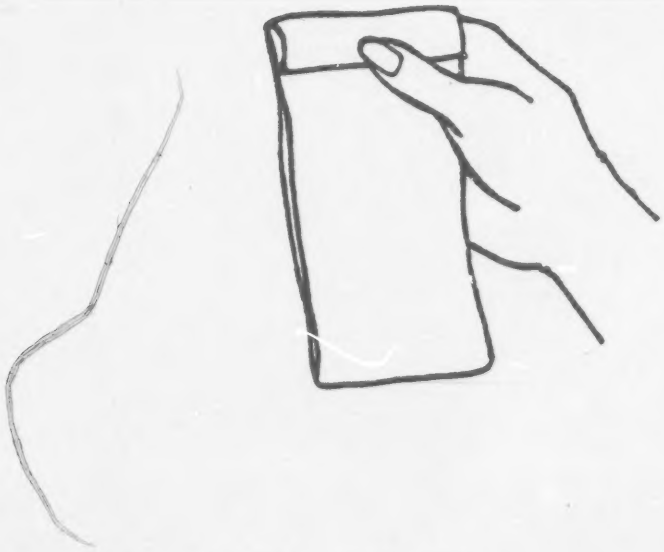


JOB STEPS

14. Place envelope with stick into the longer, larger envelope. Do not break the stick.



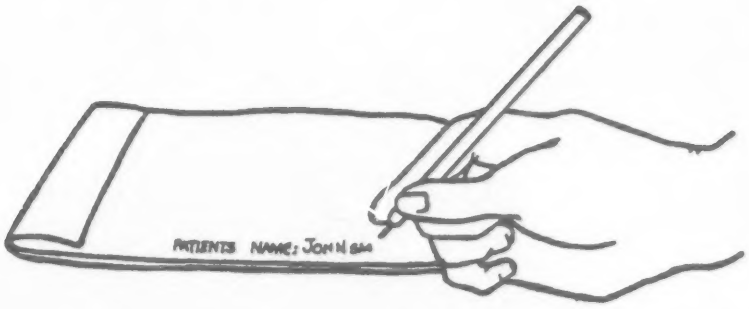
15. Remove the cover strip on larger envelope. Fold on red dotted line.



16. Press flat to seal envelope.

JOB STEPS

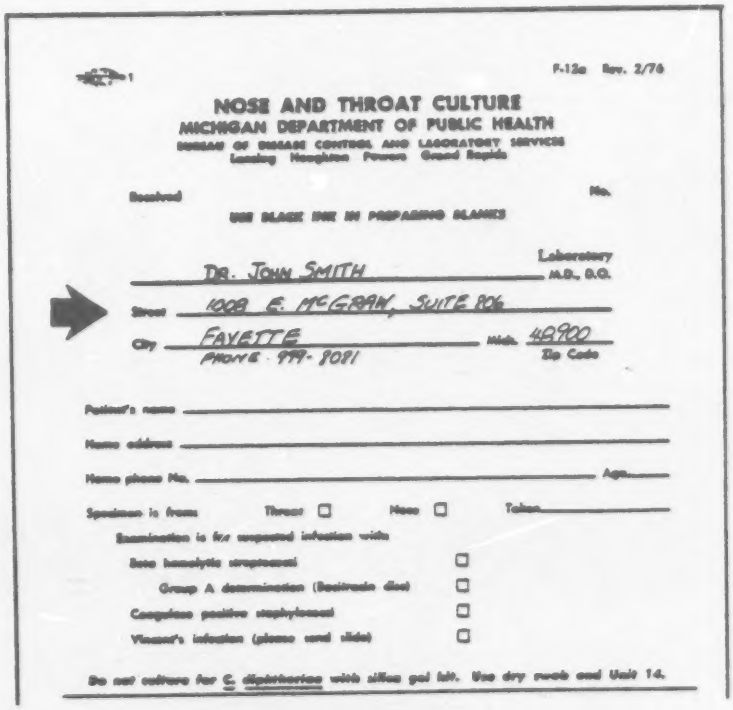
17. Write patient's name on the bottom line of envelope.



18. With your black ball point pen, fill out the culture form.

    Check with your doctor to see if he/she wants any additional information written on the form.

19. Print doctor's name, address and phone number.



F-12a Rev. 2/76

NOSE AND THROAT CULTURE
MICHIGAN DEPARTMENT OF PUBLIC HEALTH
BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES
Lansing Houghton Pavers Grand Rapids

Received No.

USE BLACK INK IN PREPARING BLANKS

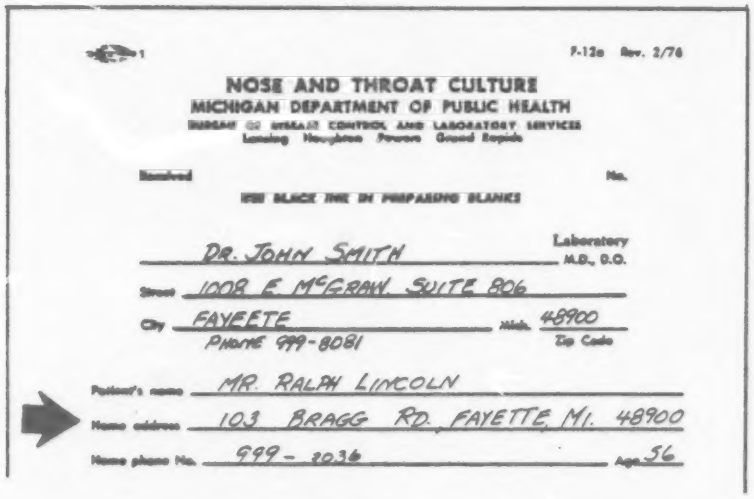
Laboratory
DR. JOHN SMITH M.D., D.O.
Street 1008 E. McGRAW, SUITE 806
City FAYETTE Mich. 48900
Zip Code
PHONE 999-8081

Patient's name
Home address
Home phone No. Age
Specimen is from: Throat ☐ Nose ☐ Tube
Examination is for suspected infection with:
Beta hemolytic streptococci ☐
Group A determination (Bacitracin disc) ☐
Coagulase positive staphylococci ☐
Vincent's infection (please send slide) ☐

Do not culture for C. diphtheriae with silica gel kit. Use dry swab and Unit 14.

JOB STEPS

20. Print patient's name, home address and home phone number.



P-12a Rev. 2/76

NOSE AND THROAT CULTURE
MICHIGAN DEPARTMENT OF PUBLIC HEALTH
BUREAU OF DISEASE CONTROL AND LABORATORY SERVICES
Lansing Houghton Traverse Grand Rapids

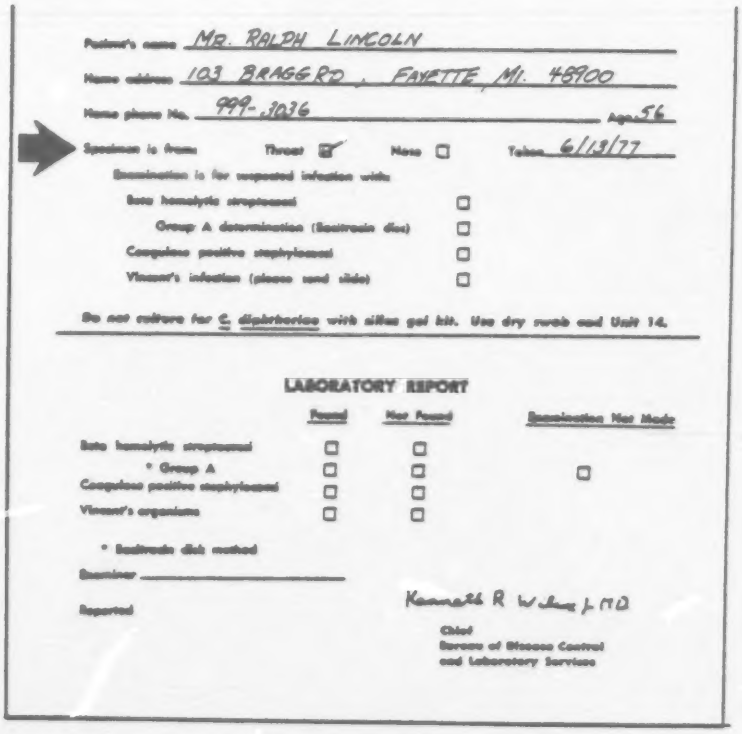
Received No.

USE BLACK INK IN PREPARING BLANKS

Laboratory
DR. JOHN SMITH M.D., D.O.
Street 1008 E. McGRAW SUITE 806
City FAYEETE Mich. 48900
PHONE 999-8081 Zip Code

Patient's name MR. RALPH LINCOLN
Home address 103 BRAGG RD. FAYETTE, MI. 48900
Home phone No. 999-3036 Age 56

21. Check where culture was taken. If you are not sure, ask! Put the date culture was taken.



Patient's name MR. RALPH LINCOLN
Home address 103 BRAGG RD, FAYETTE, MI. 48900
Home phone No. 999-3036 Age 56
Specimen is from: Throat ☑ Nose ☐ Taken 6/13/77
Examination is for suspected infection with:
Beta hemolytic streptococci ☐
Group A determination (Bacitracin disc) ☐
Coagulase positive staphylococci ☐
Vincent's infection (please send slide) ☐

Do not culture for C. diphtheriae with silica gel kit. Use dry swab and Unit 14.

LABORATORY REPORT

	Found	Not Found	Examination Not Made
Beta hemolytic streptococci	☐	☐	
* Group A	☐	☐	☐
Coagulase positive staphylococci	☐	☐	
Vincent's organisms	☐	☐	

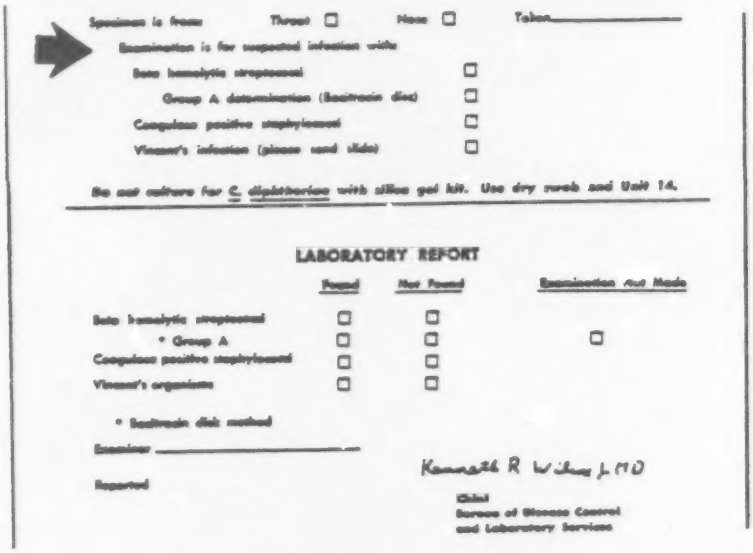
* Bacitracin disk method

Examiner

Reported Kenneth R Wilson Jr MD
Chief
Bureau of Disease Control
and Laboratory Services

JOB STEPS

22. First, check with doctor before checking "suspected" cause of infection.



Specimen is from: Throat ☐ Nose ☐ Taken _____

Examination is for suspected infection with:

- Beta hemolytic streptococci ☐
  - Group A determination (Bacitracin disc) ☐
- Coagulase positive staphylococci ☐
- Vincent's infection (please send slide) ☐

Do not culture for C. diphtheriae with silica gel kit. Use dry swab and Unit 14.

LABORATORY REPORT

	Found	Not Found	Examination not Made
Beta hemolytic streptococci	☐	☐	
* Group A	☐	☐	☐
Coagulase positive staphylococci	☐	☐	
Vincent's organisms	☐	☐	

* Bacitracin disk method

Examiner _____

Reported

Kenneth R Wilson, MD

Chief
Bureau of Disease Control
and Laboratory Services

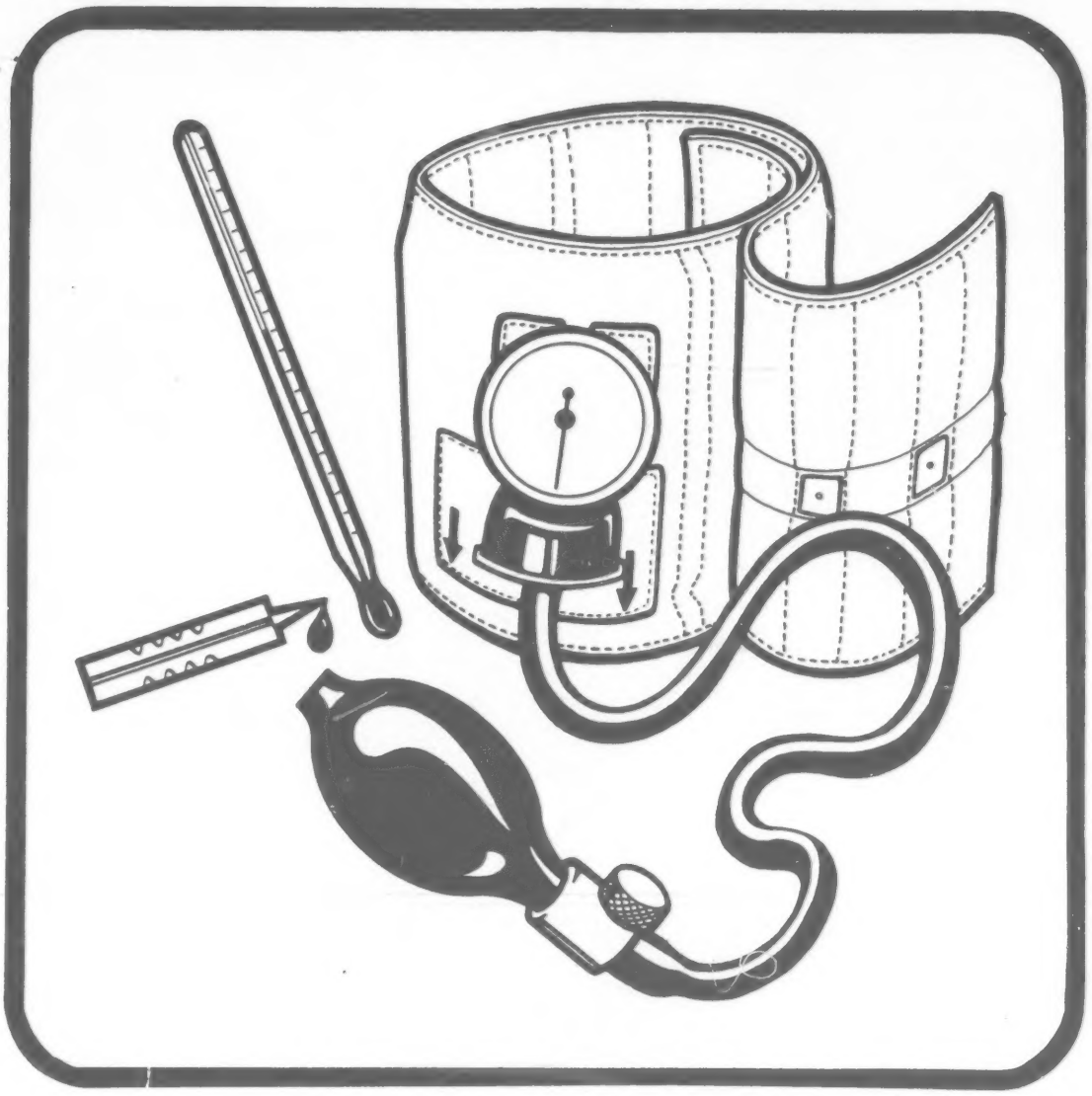
23. After you completely fill out form:

    A. Place envelope with specimen and request form into pre-addressed envelope.

    B. Put into special box marked for Michigan Department of Public Health pick-up.

24. Wash your hands.

25. On patient's chart, record kind of culture taken and date.



medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 011 date: April 1977 level: II

skill title: How To Prepare A Genital Smear

developed & written by: Beverly Varney

visuals by: Sandra Gostomski

WORD GUIDE

GONOCOCCUS - A pus-producing bacterium that causes gonorrhea.

M.D.P.H. - Michigan Department of Public Health.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to prepare a genital smear for a gonococcus culture to send to M.D.P.H.

AND IN ORDER TO DO THIS YOU WILL NEED:

Cotton tip applicator (sterile)

Glass slide

Small gum label

Cardboard folder for slide

Pre-addressed envelope to M.D.P.H.

Lab slip for gonococcus culture

Rubber band

Transgrow medium kit

Waste container

WE WILL KNOW YOU CAN DO IT WHEN:

1. You correctly apply the smear to the slide.
2. You throw away applicator after you make slide-smear.
3. You place the slide in properly labeled folder.
4. You fill out and attach lab slip to folder.

WORD GUIDE

GENITAL - Reproductive or sexual organs.

GONORRHEA - An infectious disease involving the muscous membranes of the genital and urinary tract, caused by the germ gonococcus and is transmitted sexually.

INFORMATION

Get a DuKane projector and the filmstrip-cassette, Basic Patient Care - Female Reproductive System from the library. Watch this to review the anatomy of the female organs.

Pay special attention to the location of the vagina, the cervix, the Bartholin glands, the urethra.

Frequent urination, burning, itching, heavy pus-like discharge and backache are symptoms of gonorrhea. A person infected with gonorrhea may have only one of these symptoms. In order to detect the cause of these symptoms a doctor will run different tests. The most common are a smear test and/or a transgrow test.

In this mod you will learn how to prepare a genital slide for a gonococcus culture, and how to prepare a transgrow test.

For diagnosing gonorrhea, there are two methods for sending a smear:

1. One method is to use a clean slide for the genital smear.

2. The Thayer-Martin Method or transgrow medium for transporting and growing the gonococcus germ is often used to confirm a diagnosis of gonorrhea.

The M.D.P.H. has a special kit containing:

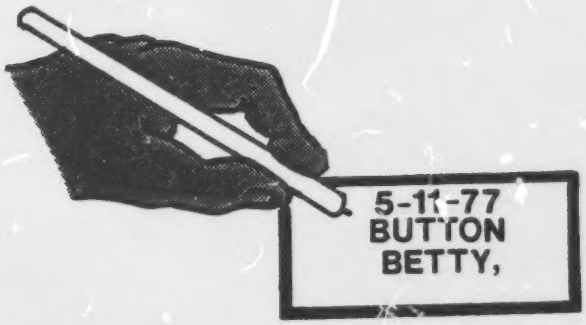
Small bottle with transgrow media
White styrofoam square container
Plastic bag
Pre-addressed label
Lab request slip
Directions

NOTE: Read directions carefully before using this method. Bottles should be stored in the refrigerator until needed and then warmed at room temperature.

JOB STEPS

1. Collect your materials.

2. Print the patient's name and date on the small label. If transgrow bottle is used, fill in the label on the bottle.



3. Place label on the folder.

4. After the doctor has obtained the secretion by using the applicator, he will either hand it to you or make the smear himself.

   NOTE: Watch the doctor! Notice where he gets the secretions. If you are not certain, be sure to ask.

   1. Urethra
   2. Vagina
   3. Prostate gland
   4. Bartholin ducts
   5. Anus
   6. Cervix

JOB STEPS

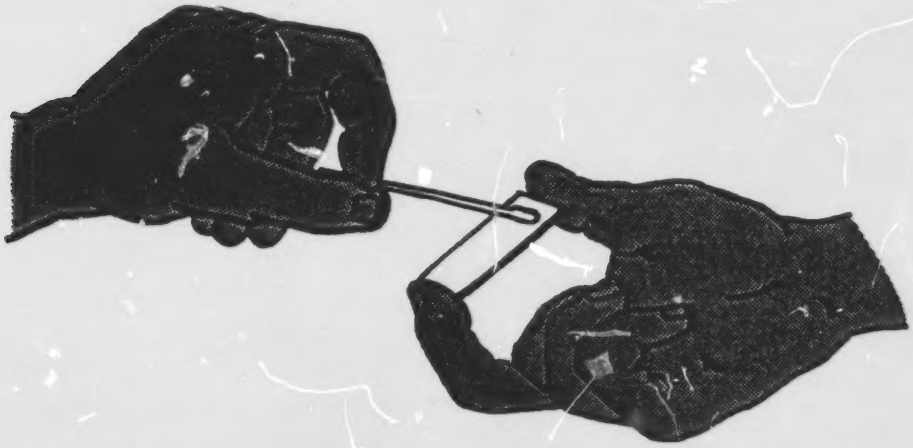
5. If he/she hands the applicator to you:

   A. Hold the applicator stick between your thumb and forefinger.

   B. Pick up the slide and hold it between thumb and forefinger of the other hand.

JOB STEPS

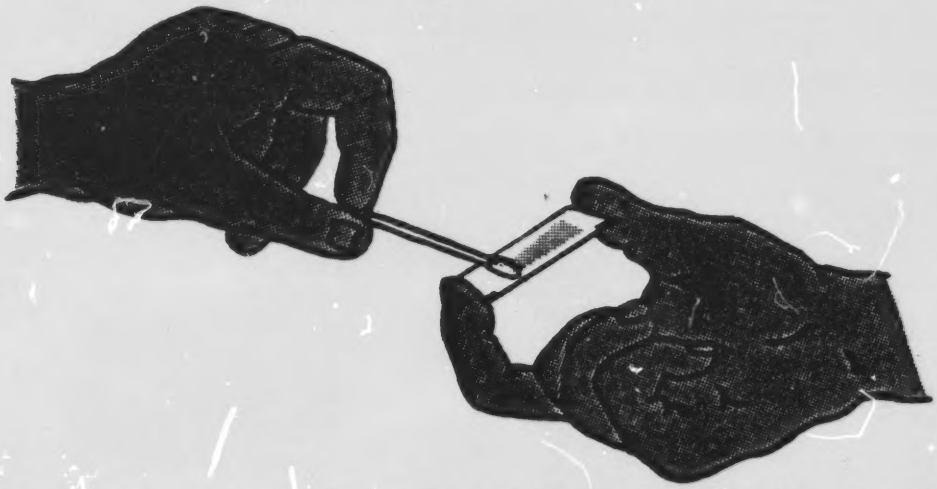
6. Place the applicator's (cotton tip) on the top of the slide about 1/2 inch from your thumb.



7. Gently roll the swab across the slide.

JOB STEPS

8. Stop about 1/2 inch from your forefinger.



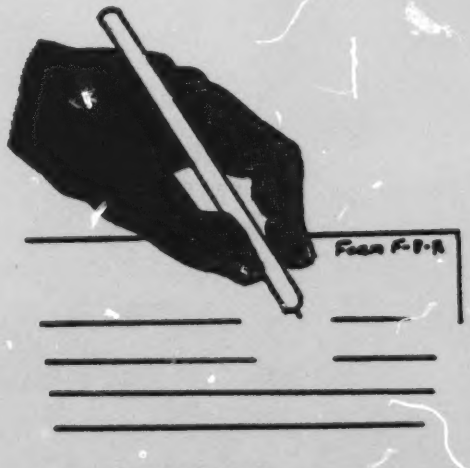
NOTE: Do not go back over the slide - tissue, blood cells, bacteria are more easily identified when the material is not "smeared" on the slide.

9. Place slide in folder.

10. Go to lab area with slide. Carry it in the folder. Do not close the folder as you must air dry slide for 10 minutes.

11. Wash your hands thoroughly.

12. Tell your instructor how you would fill out request slip Form F-8A.



WORD GUIDE

MEDIA SURFACE - Area used to hold smear.

JOB STEPS

13. After the 10 minutes are up, fold lab slip in half and wrap around the slide folder. Then, secure with a rubber band.

    NOTE: Be sure you have the right lab slip with right patient's slide.

14. Put folder in pre-addressed envelope and place in box for Michigan Department Public Health pick-up.

15. Get a transgrow bottle kit. Look at it to see how you would use it. Do not open the bottle.

    A. Keep the neck of the bottle upright to prevent escape of carbon dioxide.

    B. Remove the cap from the bottle just before you place applicator in the bottle.

    C. Roll applicator slowly over all of media surface.

    D. Throw the applicator in your waste container.

    E. Tightly screw cap onto the bottle.

    F. Place bottle in plastic bag. Fold and fasten top of bag securely with the yellow tabs.

    G. Wrap request slip around Outside of plastic bag.

JOB STEPS

H. Place bag with request slip in white square container.

I. Secure with a rubber band.

NOTE: Caution! Do not touch cotton tip of applicator to anything but slide or media inside transgrow bottle.

medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 012 date: April 1977 level: II

skill title: How To Prepare A Blood Sample To Send To M.D.P.H. For A V.D.R.L. Slide Test (for Syphilis)

developed & written by: Pat Pittenger

visuals by: Mary Ann Gamel

WORD GUIDE

DESTRUCLIP - A tool to destroy plastic syringes so they can't be re-used.

V.D.R.L. - Venereal Disease Research Lab.

Venereal- Transmitted only by sexual intercourse.

CONTAMINATED - Dirty.

M.D.P.H. - Abbreviation for Michigan Department of Public Health

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to prepare a blood sample to send M.D.P.H. for V.D.R.L. slide test.

AND IN ORDER TO DO THIS YOU WILL NEED:

A "pretend" blood sample in a 5cc throw-away syringe

A small glass Kahn bottle or tubes with a cork

A small gummed label

A M.D.P.H. request slip for syphilis

Black ball point pen

A box for lab pick-up

A container marked for "used" syringes

A container marked for "dirty" syringes

A destruclip

Patient's chart

WE WILL KNOW YOU CAN DO THIS WHEN:

1. You push the blood slowly from the syringe into the Kahn tube so that the blood runs down the side of the tube.
2. You do not stick yourself with the needle.
3. You destroy the needle and syringe and place them in the box for contaminated equipment.
4. You fill out the lab slip.
5. You label the blood sample.
6. You place the sample in the M.D.P.H. pick-up box.

WORD GUIDE

KAHN BOTTLE - A small glass tube with a cork.

INCUBATION PERIOD - The development of a infection from the time it enters the body until the first signs or symptoms appear.

INFORMATION

In this mod you are going to learn how to prepare a blood sample for the V.D.R.L. test for syphilis.

Veneral disease is a major health problem in every community. Syphilis and Gonorrhea are two common venereal diseases.

In order to prevent the spread of veneral disease, many states, Michigan included, require all persons getting a marriage license to have a negative blood test for syphilis. In Michigan it is also required during pregnancy.

As a medical assistant, to help the doctor with these tests you must remember to practice good basic skills in handling soiled materials, and hand washing.

You must check the reports when they return in the mail. Any positive findings should be called to the attention of the doctor immediately. If positive or reactive is checked on lab request, make certain the doctor looks at the report right away.

The Michigan Department of Public Health requires a treatment schedule of penicillin for 8-14 days, for people who have a positive or reactive on their report. The doctor will have you call the patient and set up his/her appointments for the treatment.

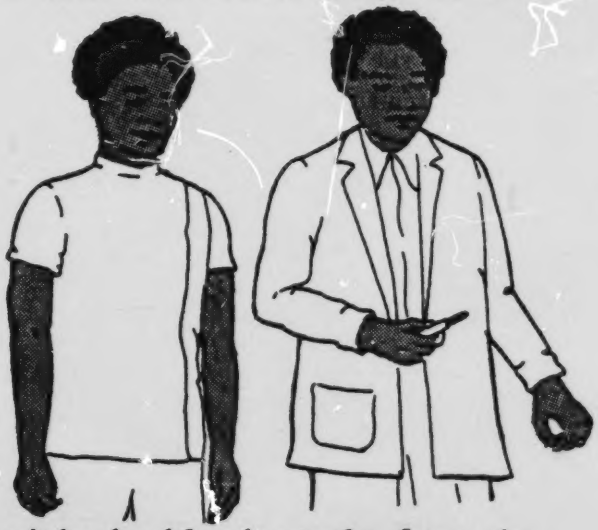
Remember all reports are confidential, and you must not talk about them with your friends!

JOB STEPS

Have your instructor or a student act as a doctor.

1. Collect your materials and go to the examining room.

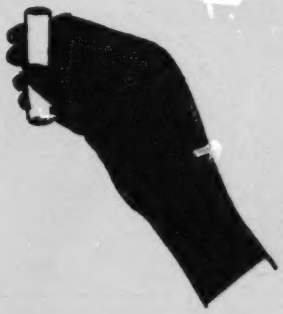
2. Take the Kahn tube and remove the cork. Set the tube on the tray table. Then, stand near the doctor while he is drawing the blood.



3. Carefully take the syringe with the blood sample from the doctor.

   NOTE: Do not touch the needle. The syphilis germ "spirochete" is found in the blood during the incubation period.

4. Before the blood clots, quickly hold the Kahn tube with your free hand.



JOB STEPS

5. Place the needle tip inside the Kahn tube. Slowly push the plunger, so the blood runs down the side of the tube.

NOTE: If possible, turn your back to the patient when filling the tube. Many patients have fainted or becomes weak at the sight of the blood!

6. Fill 3/4 of tube with blood (about 5cc).

7. Firmly place the cork in the tube.

NOTE: Several different methods are used for obtaining blood. The most common method is the vacutainer syringe. With this method, the blood is drawn directly into a tube.

If you use this type of syringe, do not put the blood into the Kahn tube. The blood is already in a tube. Place a label, with the patient's name, on the vacutainer tube and send it to the lab.

There are samples of vacutainer equipment in your lab. Be sure to look at them so you are familiar with the parts. There is a disposable needle, the tube which goes to the lab, and a barrel for the syringe which is kept clean and re-used.

8. Repeat job steps 3, 4, 5, 6, 7, until you can perform these tasks without spilling blood or contaminating yourself.

9. Take the blood sample and the other equipment to your lab area.

10. Wash your hands.

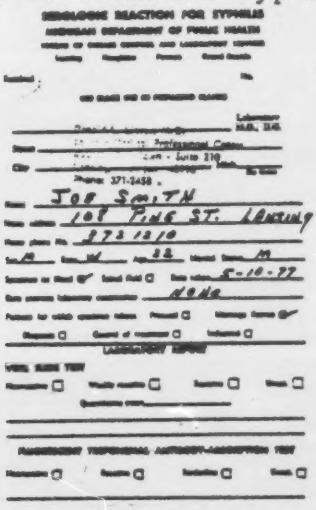
11. Write the patient's first and last name on small label. Put label on Kahn bottle.

12. Put Kahn bottle in styrofoam box (Box will hold 2 samples). Place top on box.

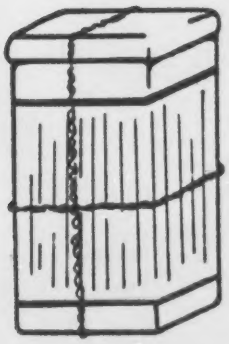
JOB STEPS

13. Using a black ball point pen, fill in the request form for syphilis. The first six lines are self-explanatory. On the seventh line after Sex M or F; after Race use B, W, O, (You may omit this blank if you wish); after Age, write the patient's age; after Marital Status, write M (married), S (single), W (widowed), D (divorced). After Purpose for which specimen taken, check: Prenatal (if during pregnancy); Marriage license (if for that reason); Diagnosis (if the doctor suspect the person has syphilis); Control of Treatment (if the person has syphilis and is begin treated); or Industrial (if for an employment physical exam).

    NOTE: The M. D. P. H. form for syphilis is printed in red.



14. Using a rubber band, secure lab slip around box.



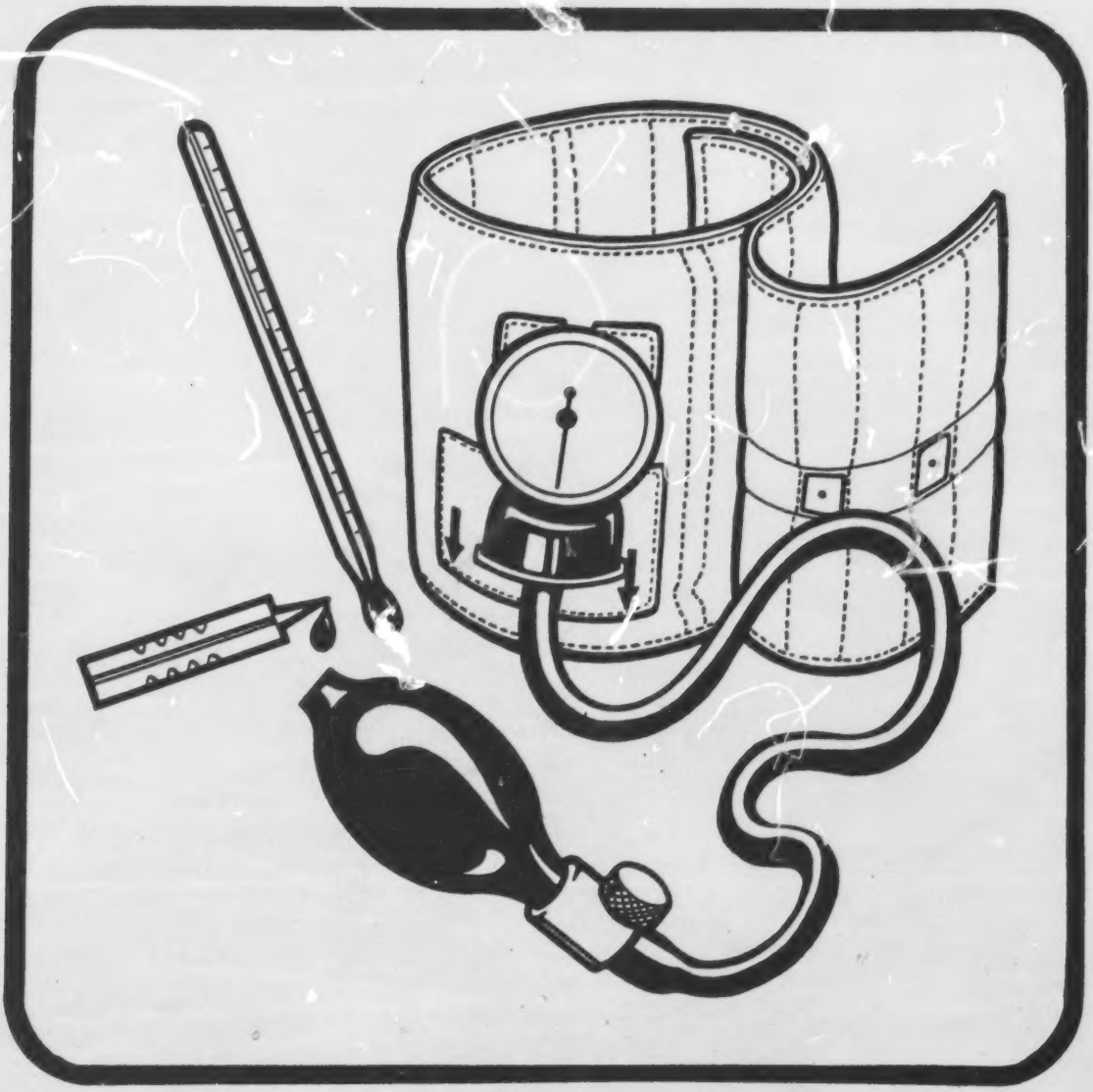
JOB STEPS

15. Record on patient's chart: 10/16/77 VDRL to MDPH

16. If plastic syringe is used, destroy it as you learned in mod 4401 06 005. Place in container.

17. Place needle in container for contaminated ("dirty") needles.

18. Go to examining room and prepare for the next patient as you learned.



medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 013 date: May 1977 level: II

skill title: How to Prepare a Urine Specimen for Bacteriological Exam at M.D.P.H. Lab

developed & written by: Pat Pittenger

visuals by: Mary Ann Gamel

WORD GUIDE

M.D.P.H. - Michigan Department of Public Health.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to prepare a urine specimen for bacteria examination at the M.D.P.H.

AND IN ORDER TO DO THIS YOU WILL NEED:

Urine specimen kit from M.D.P.H. with:

a. glass bottle with screw lid
b. round metal container
c. cardboard container
d. small gum label
e. lab request slip for bacteria examination
f. pre-addressed label to M.D.P.H.

Black ball point pen

Rubberband

Patient's chart

Person acting as a patient

Urine specimen container for patient to use

WE WILL KNOW YOU CAN DO THIS WHEN:

1) You correctly instruct your patient on how to obtain a urine specimen.
2) You use correct specimen container
3) You write patient's name on specimen label and then, attach it to urine specimen bottle.
4) You completely fill in request slip.
5) You put specimen in container and place in correct box for M.D.P.H.

VOID - To pass water - urinate.

JOB STEPS

1. Collect your materials and ask your instructor for a student patient. Dr. Brown is the doctor.

2. Wash your hands.

3. Take the specimen container and go to your patient.

4. Tell the patient you need a urine sample. Tell the patient to do these steps:

   a) Wash his/her hands.

   b) Void or put his/her urine into the specimen container.

   c) Fill about half full. Do not fill all the way to the top.

   d) Place the container on the sink.

   e) Let you know when he/she finishes.

5. While you wait, fill out the small gum label. Print patient's first and last name and date.

WORD GUIDE

BL - Bladder

LK - Left kidney

RK - Right kidney

CATHETERIZE - To insert a plastic tube through the meatus into the bladder to obtain urine that is "sterile" for a specimen, or to drain the bladder.

JOB STEPS

6. Using a black pen, fill out your M.D.P.H. lab slip for bacteria exam.

NOTE: Some doctors may want a "catheterized" urine specimen. Usually, the doctor or nurse will carry out this procedure.

7. Go to the bathroom; take the specimen to lab area.

8. Place container on a paper towel.

9. Remove the lid from glass specimen bottle. Then, with inside of lid up, place lid on paper towel.

JOB STEPS

10. Slowly and carefully, pour urine into glass bottle until 3/4 full. Do not touch container to specimen bottle.

11. Tightly put lid on bottle.

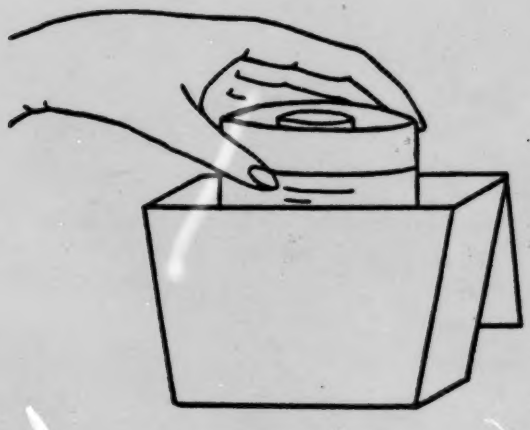
12. Place small label with patient's name on specimen bottle.

13. Put bottle inside the round metal container.

JOB STEPS

14. Fold request slip and wrap it around metal container. Secure with a rubberband.

15. Place metal container into the cardboard container.



a. Put pre-addressed label on outside of container.

b. Place in refrigerator if indicated, or in M.D.P.H. pick-up box.

medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 014 date: April 1977 level: II

skill title: How To Get A Sputum Specimen and Send It To The State Lab For A TB Test

developed & written by: Pat Pittenger

visuals by: Mary Ann Gamel

WORD GUIDE

SPECIMEN - Sample

SPUTUM - Secretion brought up by coughing.

T B - Abbreviation for tuberculosis, a lung disease.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to get a sputum specimen and send it to the State Lab for a T B test.

AND IN ORDER TO DO THIS YOU WILL NEED:

Sputum Specimen Kit:

a) Glass specimen bottle
b) Round, cardboard container with metal lid
c) T B form F 17a 5-61
d) Small gum label
e) Pre-addressed gum label (To Bacteria Lab)

Box for State Lab specimens

Rubberband

Black ball-point pen

Person acting as patient

WE WILL KNOW YOU CAN DO THIS WHEN:

1. You instruct the patient to get a sputum sample.
2. You fill in small gum label and attach to specimen bottle.
3. You completely fill in request slip and attach it to container.

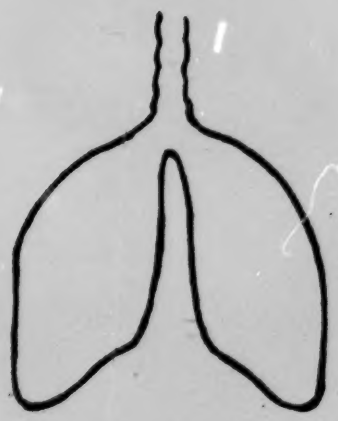
WORD GUIDE

TUBERCULOSIS (TB) - A disease of the lung that is spread very easily. Caused by a germ called Tubercle Bacilles.

INFORMATION

Sputum is sometimes called "spit". Sputum is thick juice that comes from deep within the patient's throat and lungs. It is not the same juice or "spit" that comes only from the mouth.

The doctor orders a sputum specimen to check a patient's breathing tube and lungs.



The lab workers look closely at the sputum sample. If they find blood or germs (pneumonia and tuberculosis are two common germs), lab workers notify the doctor. Then, the doctor can order the right medicine or treatment for the patient.

You should be very careful to use good handwashing techniques. Germs are spread very easily from hand to mouth.

It is very important that you get a good sample of sputum from the patient.

NOTE: Most doctors will have their patients collect the sputum at home.

JOB STEPS

Collect your materials and go to "practice" examination room.

2. Give the patient the following materials:

   a) Round, cardboard container
   b) Specimen bottle

3. Give the patient the following instructions:

   a) Rinse out mouth with water to prevent pieces of food from going into sputum sample.
   b) Take lid off specimen bottle. Do not touch inside of lid.
   c) Hold specimen bottle in front of mouth.

   d) Take 3 slow, deep breaths. Then, while letting out 3rd. breath, cough.
   e) While coughing, spit into specimen bottle.

NOTE: Do not let sputum get on outside of bottle or lid. (You may have to repeat step 3 E.)

   f) Continue spitting until sputum is size of a quarter (25¢).
   g) Put lid tightly on bottle. Do not touch inside of bottle or lid.
   h) Rinse off outside of bottle under hot water. Then, dry bottle.
   i) Place specimen bottle in the round cardboard container and tightly shut lid.
   j) Bring specimen to doctor's office within 24 hours.
   k) Review these steps, one at a time with the patient to be sure he/she can do it correctly.

JOB STEPS

4. When patient returns the specimen to the office, you will:

   a) Remove glass bottle from the container.

   b) Write the patient's name, age, doctor, and date on a small gum label.

   c) Place label on the specimen bottle. Make sure it sticks.

5. Wash your hands.

6. Using black, ball-point pen, fill out T B request form.

7. Look at the request form. Check to make sure the following are filled in:

   a) Dr's name and address

   b) Patient's name and address

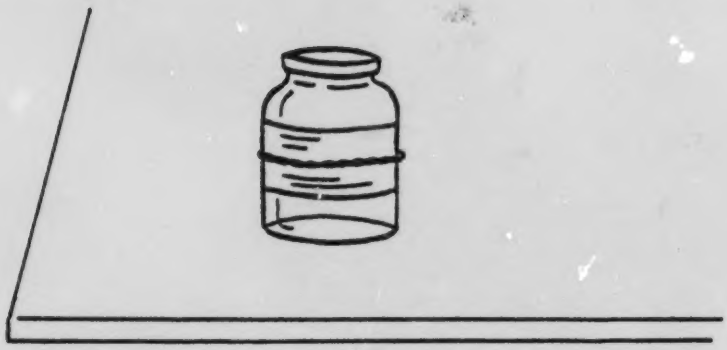
   c) Diagnosis - treatment (Ask the doctor for this information)

   d) Sputum (single - pool)

   e) Date specimen was taken

JOB STEPS

8. Fold form in half and place around glass bottle. Secure with a rubberband.



9. Put bottle in cardboard container and then tighten lid.

10. Place gum label on container. Address to "Bacteria Lab" at the State Health Department.

11. Place container in pick-up box for "State Lab Specimens".

12. On patient's chart, write date specimen was taken and date sent out to the State Lab.

Now, test yourself. Write your answers on a separate sheet of paper and check your answers. The answers are on the last page.

1. Sputum is juice that comes from_____in the patient's _____ and _____.

2. Ask the patient to _____ his/her mouth with _____ before he/she collects the specimen.

3. The patient should take 3_____, _____, _____.

4. The patient should _____ when he/she lets out the air on the _____ breath.

5. The specimen bottle is held under the patient's _____.

6. The patient's _____, _____, _____ of specimen is written on the label.

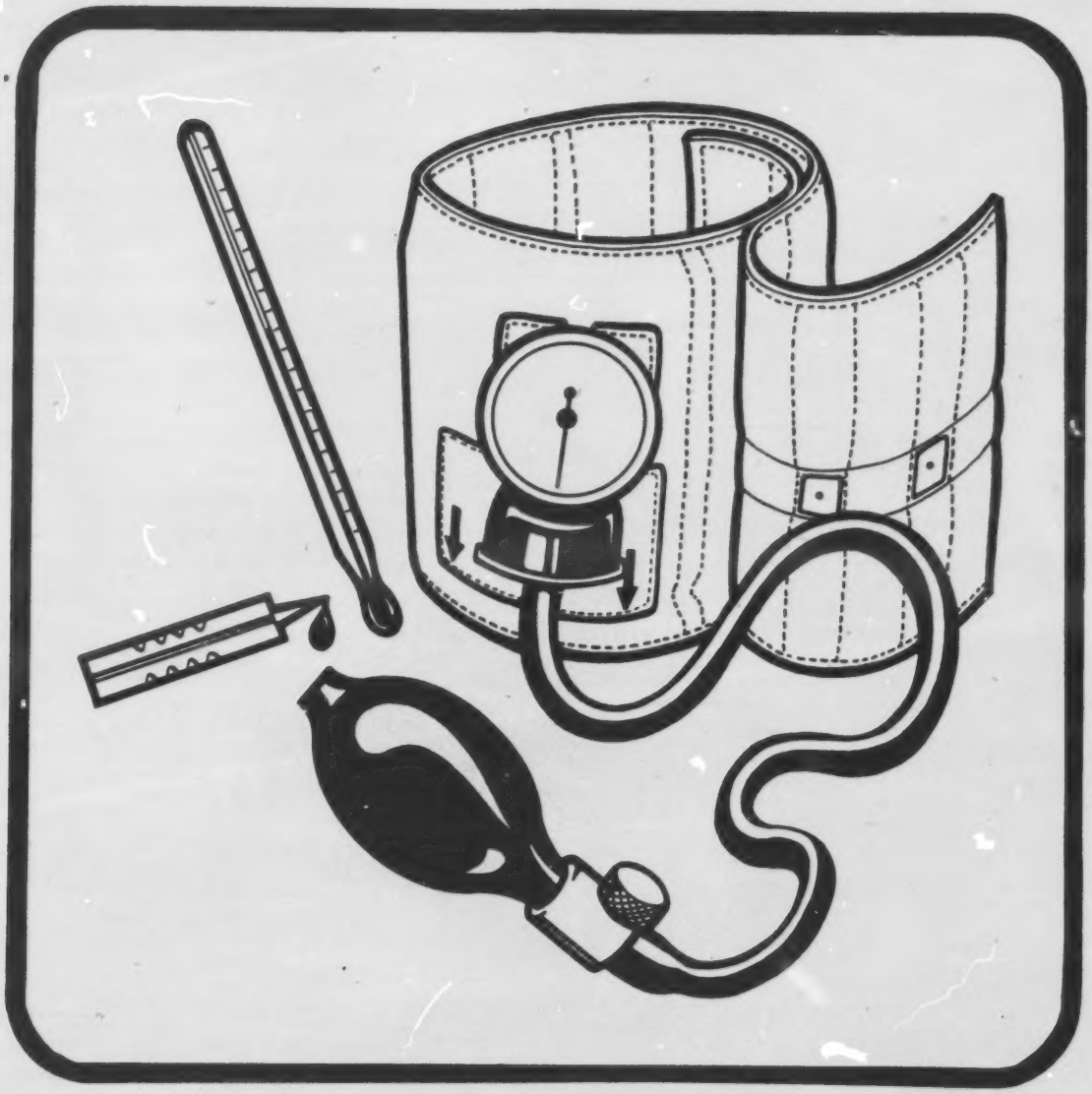
7. A label with patient's name is placed on the _____ _____.

8. The request form is placed on the outside of the specimen bottle with a _____.

9. All forms are filled out in _____ _____.

Answers to Test

1. deep throat lungs
2. rinse water
3. slow deep breaths
4. cough third
5. chin
6. name date kind
7. specimen bottle
8. rubberband
9. black ink



medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 015 date: April 1977 level: II

skill title: How To Assist The Doctor With A Pap Smear and Prepare Slides For The Lab

developed & written by: Pat Pittenger

visuals by: Sandra Gostomski

PERFORMANCE OBJECTIVE

You are going to learn:

How to assist the doctor with a Pap Smear and then, prepare the slides for the lab.

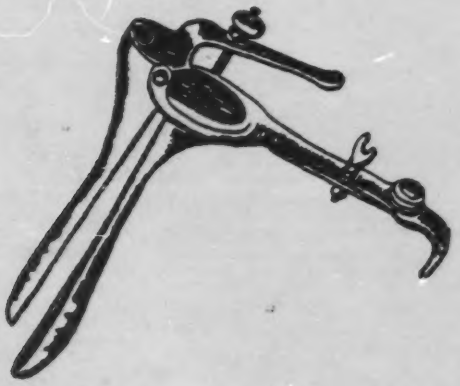
And in order to do this you will need:

Person acting as a doctor

Person acting as a patient

Tray stand with:

- One small towel
- Wooden spatula (or crevical biopsy scraper)
- Cotton swab or applicator
- Vaginal Speculum
- Lubricating jelly
- Rubber gloves
- Two slides in folder
- Fixative (Aqua Cyte or hair spray)



Request slip for cell examination

Patient's chart

Black pen and pencil

Stool

Rubber band

Box for lab pick-up

Floor light

Waste basket

We will know you can do it when:

1. You can completely fill out the lab slip with the correct information.
2. You mark each slide with patient's name and the letter "C" or "V".
3. You assist the doctor when needed.
4. After the doctor takes smears you immediately spray slides with a fixative.
5. You place in correctly marked folder with right lab slip.
6. You place all pap smear slide folders in right box for pick-up that day.

WORD GUIDE

PELVIC EXAM - To examine visually the vagina and cervix of the uterus.

HYSTERECTOMY - Removal of the uterus.

CERVIX - The small or narrow end of the uterus.

CYTOLOGY - Study of cells.

D & C (Dilatation and Curretage) - A surgical procedure that dialates (opens) the opening into the uterus and scrapes (cleans) the inside of the uterine lining.

BIOPSY - Examination of living tissues from an organism.

INFORMATION

The "Pap Smear" is an important diagnostic test performed in a doctor's office. "Pap" stands for Papanicolaou, the name of the man who developed the procedure for diagnosing cervical and uterine cancer.

The Pap Smear is taken during the pelvic exam. Secretions are taken (using a wooden stick) from the vagina and cervix and placed on a slide.

A doctor (Pathologist) looks at the slides to determine if there are any cancer cells and then reports the findings. You will be looking at these reports when they come back in the mail. It is very important that the Doctor sees these reports the day they return.

NOTE: Do not file reports until you are certain the Doctor has seen them.

When the Doctor finds an abnormal smear, it does not always indicate cancer. The Doctor will want to do more tests right away, such as a D & C, or a Biopsy.

A woman should have a Pap Smear test every six months to one year. It is your job to encourage patient's to make this appointment.

Instruct your patients not to douche for 24 hours before the pap test.

NOTE: This is important. A douche will wash away the cell deposit.

INFORMATION

Women who have had a hysterectomy do not usually have a pap test.

NOTE: There are many different forms for pap test.(Most of the questions on the forms are similar).

Some different terms you will see on the forms are:

Para - Is how many pregnancies the patient has had, including abortions and miscarriages.

Gravide - Means how many children the patient delivered.

E.D.C. - Stands for estimated date of confinement, or the date the baby is due determined by her last menstrual period.

Hormone therapy - Write down any hormone medicine the patient is taking such as Estrogen, Premarin, or any B.C.P. (Birth Control Pills)

Each Doctor will have a special laboratory he/she uses.

JOB STEPS

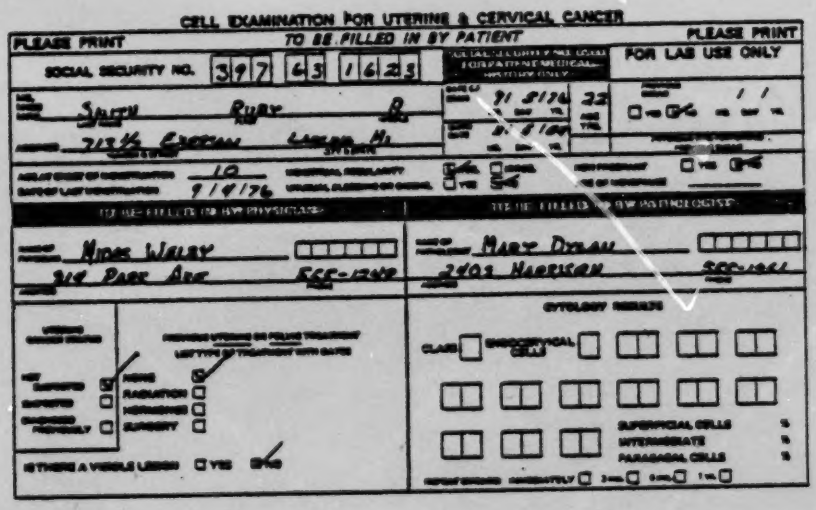
1. Collect your materials listed on page 3.

2. Go to your examination room.

3. Set up your tray for a pelvic exam. You have already learned this in another mod.

4. Send practice patient to exam room.

5. Look carefully at lab request slip: cell examination for uterine and cervical cancer.


CELL EXAMINATION FOR UTERINE & CERVICAL CANCER

PLEASE PRINT — TO BE FILLED IN BY PATIENT — PLEASE PRINT

SOCIAL SECURITY NO. 397 63 1623

FOR LAB USE ONLY

Smith Ruby R

713½ Eastern Lansing Mi

10

9/4/76

TO BE FILLED IN BY PHYSICIAN

Midas Welsh

314 Park Ave

TO BE FILLED IN BY PATHOLOGIST

Mary Dylan

2403 Harrison

CYTOLOGY RESULTS

CLASS

ENDOCERVICAL CELLS

SUPERFICIAL CELLS %

INTERMEDIATE %

PARABASAL CELLS %

Have your patient fill in only the parts indicated for the patient.

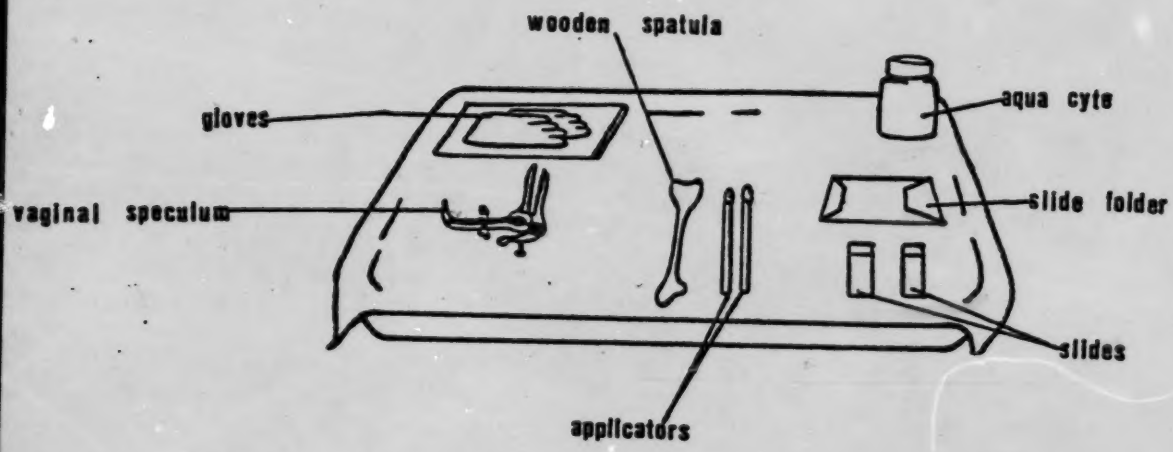
Some patients will want you to fill in the form for them. Remember to print and to use a black pen.

Some patients will need a calendar to help them remember the date of their last menstrual period (L.M.P.).

JOB STEPS

6. Prepare your patient for a pelvic exam. You have already learned this in another mod.

7. Check over the tray table. It should look like this diagram:



NOTE: Some Doctors will use a tongue blade instead of the special "cervical spatula".

8. Using a pencil, write the letter "C" (cervix) on the frosted part of one slide. Then, write patient's last name. On the other slide, write the letter "V" (vaginal) and patient's last name.

WORD GUIDE

AQUA CYTE - A solution used to fix and preserve secretion on the slides.

JOB STEPS

9. Tell your Doctor the patient is ready for the pap test.

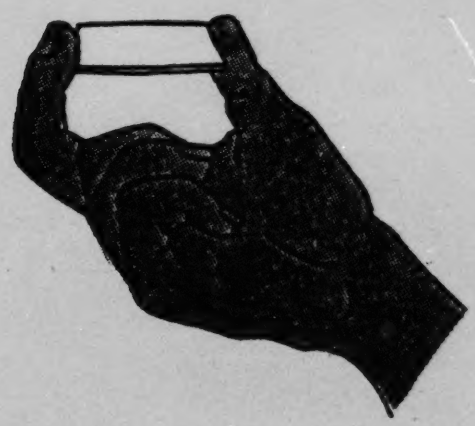
10. As a Medical Assistant, during the pelvic exam you will:

    A. Support your patient.

    B. Focus the light, if necessary.

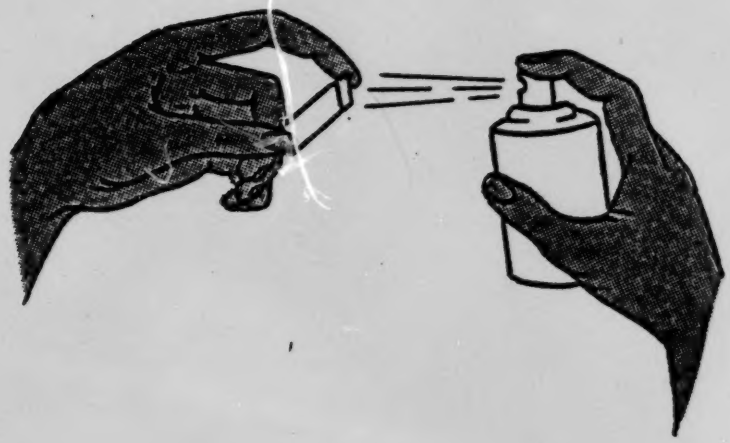
    C. Hold each slide for the Doctor, if necessary.

11. Take the slides from the Doctor. Hold the slide (on the edges) with your thumb and forefingers.



JOB STEPS

12. Take the bottle of Aqua Cyte. Hold the spray 6 to 8 inches away from the slide and spray evenly covering all of slide.



13. Place slides in the folder. Do Not Close Folder. Leave folder on the tray table.

    NOTE: This will prevent slides from "breaking".

14. After the Doctor has completed his/her exam, help the patient to a position of comfort as you have already learned.

15. Take the folder with slides and lab slip to your lab area.

16. Air dry slides for 10 minutes. Wash your hands while you are waiting.

17. Check the lab slip to be sure all necessary information is complete.

18. Fold the lab slip and wrap the rubber band around the folder.

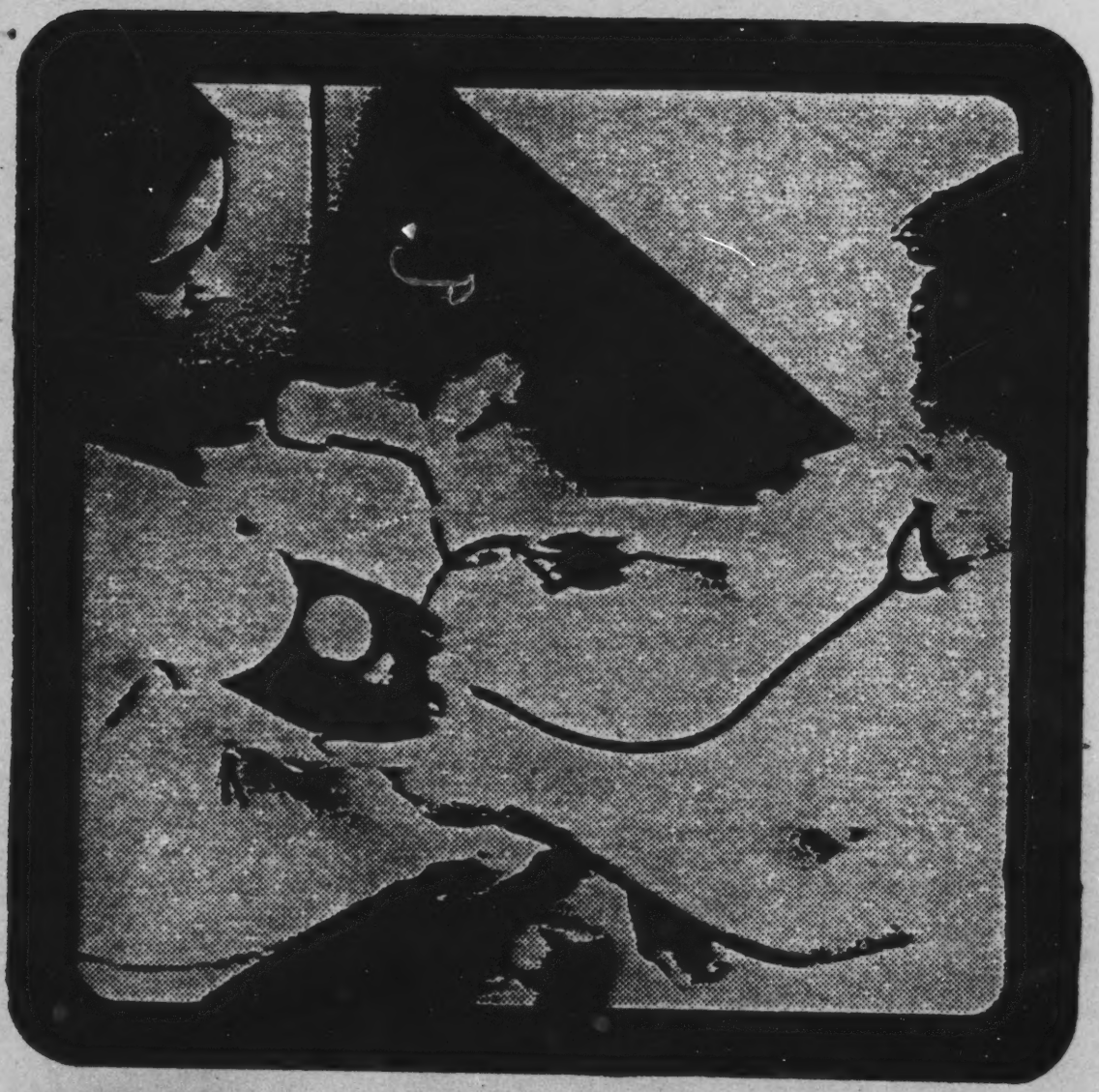
JOB STEPS

19. Place folder with request in the box marked daily lab pick-up.

20. Return to the examining room. Prepare the room for the next patient.

21. Collect dirty speculum. If "throw-away kind" is not used, clean speculum as you have learned.

Have your instructor check to see that you have completed the job slips.



medical assistant

unit: Diagnostic Tests

capital area career center

module: 4401 07 016 date: 8/77 level: _____

skill title: How to Use an Audiometer

developed & written by: Pat Pittenger

visuals by: Mary Ann Gamel

WORD GUIDE

FREQUENCY - The number of repetitions in a certain period.

AUDIOMETER - An instrument used to measure hearing.

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to test a patient's hearing using an audiometer.

AND IN ORDER TO DO THIS YOU WILL NEED:

An Audiometer

Two Chairs

Audiogram Record Sheet

Patient's Medical History Chart

One Red Pencil

One Blue Pencil

A Pen

A Patient Needing A Hearing Test

WE WILL KNOW YOU CAN DO IT WHEN:

1. You explain the procedure to the patient so that she/he understands it.
2. You turn on audiometer five minutes before the test.
3. You correctly put each earphone on the correct ear.
4. You check each frequency three times.
5. You correctly fill out the audiogram record sheet.

WORD GUIDE

OTOSCLEROSIS - Formation of new bone tissue in the ear.

ACUITY - Keenness or Sharpness.

INFORMATION

Hearing test are given for the following reasons:

1. To determine the degree of hearing loss from each ear.
2. To find out if the auditory nerve is involved.
3. To determine if Otosclerosis is the cause of hearing loss.

The audiometer measures the acuity for different sound levels and frequencies.

For a more detailed explanation, read The Medical Assistant, pages 256 - 260.

Important points to remember when conducting a hearing test:

1. Close the door when you give a hearing test. Be sure there are no distractions or interuptions.
2. When testing children, ask the parent to leave the room.
3. Before you begin the test, let the patient listen to a few tones.
4. Explain how to signal when the sound becomes audible. The most common way is to have the patient raise his/her hand when he/she first hears the tone and drop it when it is no longer heard.

INFORMATION

5. If a patient does not "hear" or respond to the different tones, have the patient remove the ear phones and speak to the patient in a soft voice.

   If the patient can hear you, they can probably hear the tones. Explain the procedure again to the patient. Be sure they understand how to signal.

   Some audiometers are equipped with a signal light for the patients to push when they hear the tone.

WORD GUIDE

POWER SWITCH - A switch on the audiometer.

SELECTOR SWITCH - A switch on the audiometer.

JOBS STEPS

1. Before you begin the job steps the Operating Instruction's for the audiometer you will be using. Collect your equipment.

2. Before you get your patient, follow this procedure:

   A. Check the audiometer.

   B. Turn the power switch "ON" - It should "warm up" for about 5 minutes before you start.

   C. Check each frequency 3 times for accuracy.

3. Get your patient. Ask the patient to sit in the chair in front of the audiometer.

4. Turn selector switch to right ear.

WORD GUIDE

INTERRUPTER - A switch on the audiometer.

REV. - Reverse.

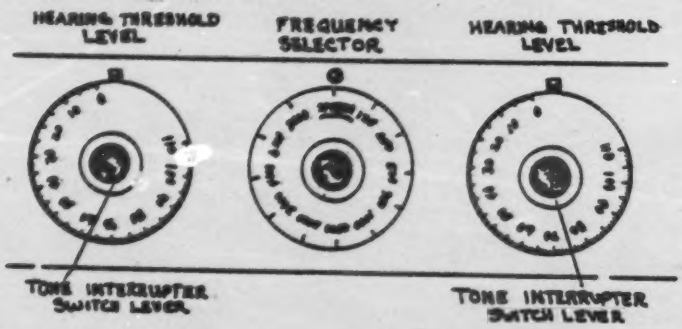
HTL - Hearing threshold level.

DB - Decibels.

JOBS STEPS

5. Set interrupter to Rev. position.

   NOTE: The tone can be heard only by pushing the tone interrupter switch levers at each end of the pannel.



6. Instruct the patient on the test procedure. Say: "The purpose of this test is to see how well you can hear faint sounds. Each sound is short. Some will be easy to hear; others will be faint. When ever you hear these sounds, no matter how faint, raise your hand. As soon as the sound disappears, lower your hand."

7. Set the HTL at 100 db, the amps at 2000 H3 and push the interrupter switch (one of the loudest tones).

WORD GUIDE

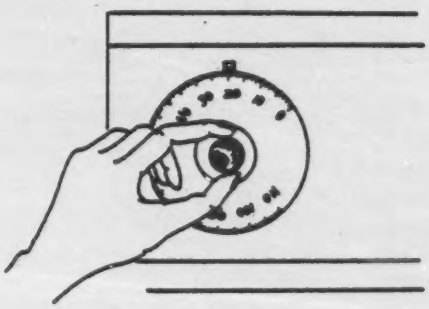
AUDIBLE - To hear

JOB STEPS

8. Say to the patient: "This is the kind of tone you will be hearing. Some will be higher. Some lower. You will be hearing these sounds in your right ear first."

   NOTE: Do not do this with the earphones on the patient.

9. Set the HTL at 20 db. and the amps at 2000 H3.



10. To present the tone, do the following steps:

    A. Press the tone interrupter lever for 1-2 seconds.

    B. If the patient does not signal hearing the tone, release the tone interrupter lever.

    C. Increase the tone level to 30 db.

    D. Press the tone interrupter lever again.

    E. Contuine advancing the HTL Control until an audible level is reached.

WORD GUIDE

THRESHOLD LEVEL - The minimum audible sound.

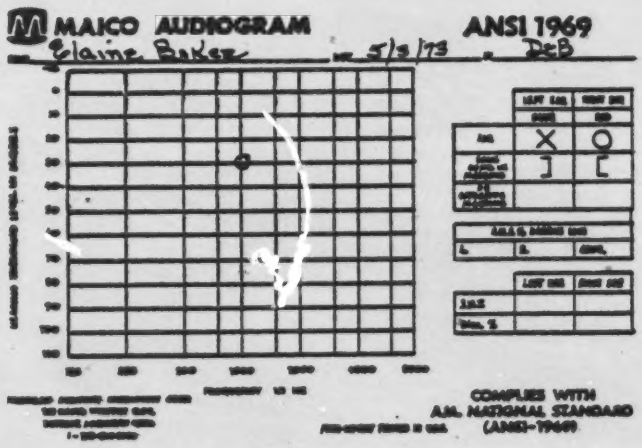
JOB STEPS

11. On the audiogam chart, record the threshold obtained in the preceding step. See explanation below:

    A. Record right ear hearing level an "O" marked in red.

    B. Record left hearing level with an "X" marked in blue.

    C. Mark an "O" at the exact position the patient first hears the sound.



12. Continue with testing as follows:

A.	HTL	15 db	2000 amp
B.	HTL	20 db	1000 amp
C.	HTL	20-25 db	500 amp
D.	HTL	30-40 db	4000 amp
E.	HTL	30-35 db	8000 amp

NOTE: The above thresholds plus the HTL 20 db - 2000 amp in steps 9, and 10 make up the screening for normal hearing.

WORD GUIDE

AUDIOGRAM - A test to measure hearing.

JOB STEPS

13. When the patient does not hear at the above levels (HTL) , return to step 10. Advance the HTL but leave the amp setting the same.

14. Change the selector switch to "left ear."

15. Repeat testing. Do steps 9, 10, 11.

16. Remove head phones when testing is complete.

17. Turn off audiometer.

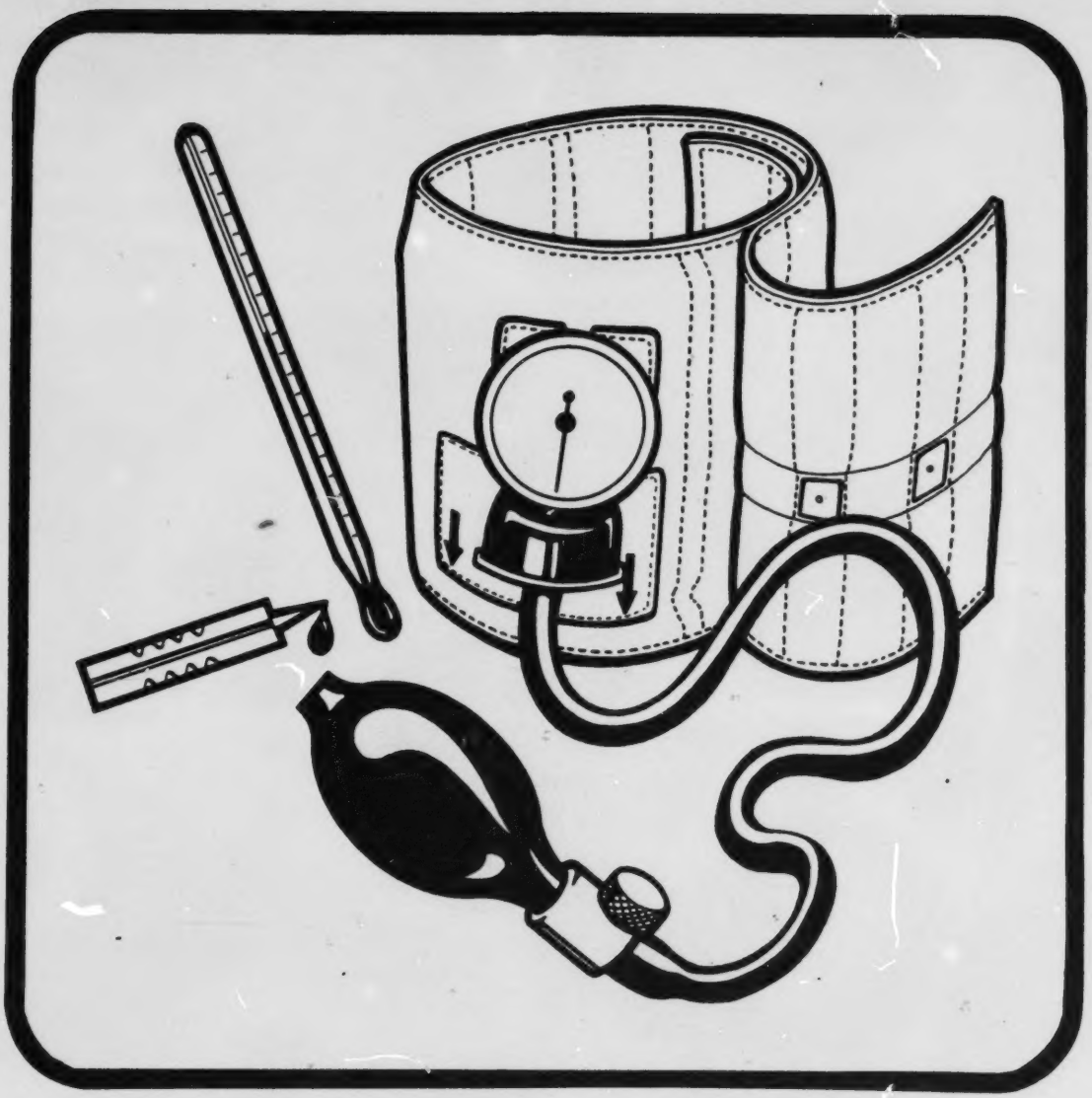
18. With a straight line, connect all of the X's and O's using the blue for the X's and red for the O's on record sheet.

19. Tell the patient the Doctor will explain the test results to them.

20. On patient's medical history, chart the following: Date audiogram was taken, per your name.

21. Put audiogram with the patient's chart, and tell the Doctor the test is completed.

22. When you are certain you can give a hearing test, ask your instructor for a person to act as your patient.



medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 017 date: March 1977 level: III

skill title: Taking Electrocardiogram

developed & written by: Jack Helder

visuals by:

WORD GUIDE

MOUNT - to set in place for viewing.

PERFORMANCE OBJECTIVE

You are going to learn:

1. How to prepare a patient for an ECG.
2. How to perform an accurate ECG.
3. How to care for and clean the equipment needed to do an ECG.
4. How to mount an ECG.

And in order to do this you will need:

1. An ECG machine with complete equipment
   a. One line cord (power source to machine)
   b. One patient cord (machine to patient)
   c. Ground wire or 3-prong plug on line cord or both
   d. Four limb electrodes
   e. Four rubber straps for limb electrodes
   f. One vacutrode or other chest electrode
   g. ECG paper roll
   h. Electrode jelly or Lectro-pads
   i. Dust cover for machine

2. Patient Materials
   a. Tongue depressor
   b. Ballpoint pen
   c. Grease pencil
   d. Drapes for patient
   e. Wet towel
   f. Dry towel
   g. Patient chart

3. Mounting Equipment
   a. Finished ECG
   b. ECG rule
   c. Card mounts
   d. Ballpoint pen
   e. Scissors
   f. ECG record inserter

4. Spare Supplies
   a. One spare fuse for line circuit
   b. One stylus leveling tool
   c. One screwdriver
   d. Extra ECG paper
   e. Extra card mounts
   f. Extra electrode paste or Lectro-pads

We will know that you can do it when:

1. The patient is comfortable and relaxed during the ECG test.
2. Each electrode is properly placed on the patient.
3. You can take an accurate ECG in less than 1/2 hour.
4. You have identified the parts of the ECG in order to properly cut and mount them in the card mounts.
5. You can mount an ECG.

INFORMATION

As you can see by the Performance Objective, you must learn a great number of facts, procedures, and job steps in order to take an ECG.

Before you study this module, watch the slide tape for this module, and then read the Burdick Corporation Training Program entitled Electrocardiography: A Better Way.

When you are finished with the Burdick book, you must study this module. It may take as much as four weeks to completely learn how to take an ECG, so study slowly and carefully.

You will also need -- when studying the Burdick book and the module:

1. Electrocardiograph machine
2. "Needs" on Performance Objective Page
3. Stethoscope
4. Sphygmomanometer
5. A watch with a sweep second hand

WORD GUIDE

GALVANOMETER - the part of the ECG machine which detects the presence of the electromotive forces which come from the heart and measures their strength.

STYLUS - the part of the machine that makes the recorded marks.

JOB STEPS

MACHINE SET UP:

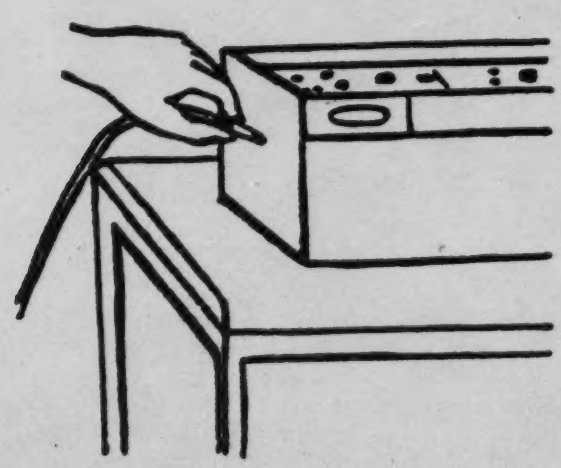
1. Remove your own wristwatch. The magnetism of the galvanometer is strong enough to magnetize your watch movement.

2. Be sure the MAIN SWITCH is set at "OFF" and the RECORD switch is set at "AMP OFF".

3. Be sure the lead selector switch is set at "ST'D".

4. Connect power supply cable by plugging into the outlet receptacle.

5. Connect other end of supply cable into the instrument.



6. Turn main switch to "ON". Allow machine 2 to 5 minutes to heat up. During this time the stylus may move but should come to rest.

WORD GUIDE

LEAD WIRES - the part of the machine which connects the patient electrodes to the machine.

JOB STEPS

7. Test for grounding:

   a. Without touching any other part of the unit, touch test contact with finger.

   b. If the stylus does not vibrate, you know the unit is properly grounded.

   c. If the stylus does vibrate, regardless of the position of the "ground" switch, use the auxiliary ground lead wire. Plug it into the "ground" jack on the right hand side of the unit. Fasten the spring clip to a radiator, waterpipe, or any other grounded metal equipment.

Do the settings on the unit, then check your own work.

CHECK: 1. Set the MAIN SWITCH at _____.

2. Set the RECORD SWITCH at _____.

3. Set the LEAD SELECTOR SWITCH at _____.

After you have connected both ends of the power supply cable:

4. Set the MAIN SWITCH at _____.

5. Test for grounding by touching test contact with finger.

A. When the stylus does not move, it means:

a. the unit is not properly grounded.
b. the unit is properly grounded.

We hope you picked "b". If not, reread number 7 of "machine set up".

PRELIMINARY PATIENT PREPARATION:

Be sure that you have watched the slide tape carefully to make sure that you understand the steps for preparing a patient.

WORD GUIDE

DILATE - to enlarge; become larger

ERYTHEMA - abnormal redness of the skin.

ABRADE - irritate by rubbing.

JOB STEPS

APPLICATION OF LIMB ELECTRODES:

Burdick Machine:

1. Apply first electrode to right forearm.

   a. Place a Lectro-pad on a smooth fleshy area on the outer or inner surface of the right arm. If skin is dry, rub with the edge of a tongue blade, a rough towel or a piece of gauze before applying. Take care not to rub too hard, but enough to redden the skin.

   b. Eliminate

   c. Same

   d. Same

   e. Same

Alternate Methods:

1. a. Squeeze 1/4" of jelly onto a tongue depressor and rub briskly into the fleshy portion of the inside right forearm. NEVER use cotton or cleansing tissue to apply electrode jelly. Cover an area slightly larger than the electrode size. Rub until a slight erythema is produced. You must abrade the skin to dilate the blood vessels to provide proper conduction.

   b. Squeeze another 1/4" of electrode jelly onto the tongue depressor and spread evenly over the surface of the electrode.

   c. Attach one end of rubber strap to prepared electrode.

   d. Apply electrode immediately to abraded skin.

   e. Bring strap around the arm and fasten -- just tightly enough to prevent excessive sliding. If the strap is fastened too tightly, muscle tremor is likely to appear on the record.

JOB STEPS

Burdick Machine -- Continued

2. Repeat steps la through le on left forearm.
3. Repeat steps la through le on left leg.
4. Repeat step #3 on right leg.

Alternate Methods -- Continued

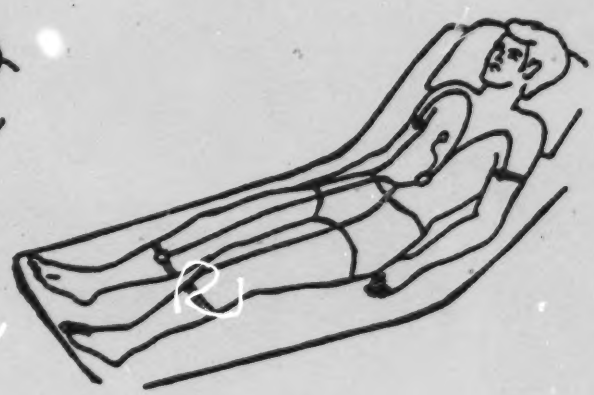
2. Apply second electrode to left forearm following steps la, c, d, e.
3. Apply third electrode to inside fleshy portion of left leg above ankle, as in steps la, c, d, e.
4. Apply fourth electrode to right leg above ankle as in step #3.

Connect Patient Lead Wires to Electrodes:

1. L.A. to left arm (black).
2. R.A. to right arm (white).
3. L.L. to left leg (red).
4. R.L. to right leg (green).
5. Be sure that there is no strain placed on the electrodes or connections, but that there are no long loops in lead wires.

NOT THIS WAY

THIS WAY



WORD GUIDE

RECEPTACLE - plug-in

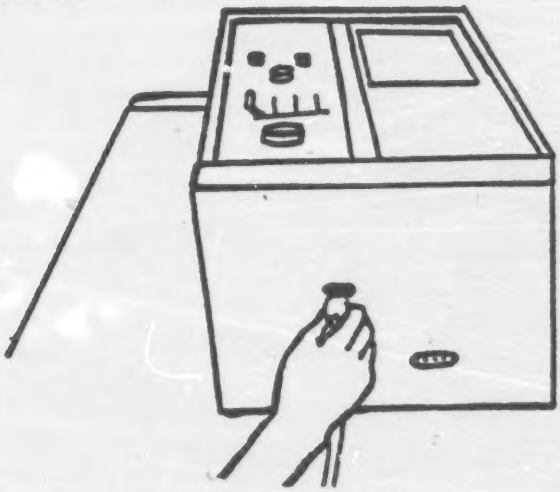
JOB STEPS

Connect Patient Cord to Unit:

1. Receptacle for attachment of cord is on the right side of the instrument.

2. Rotate plug until the long rib ("boss") on the rubber handle of the plug is up.

3. Push the plug through the opening in the case and into the receptacle.



Mark the chest for chest electrodes:

WORD GUIDE

INTERCOSTAL - between the ribs.

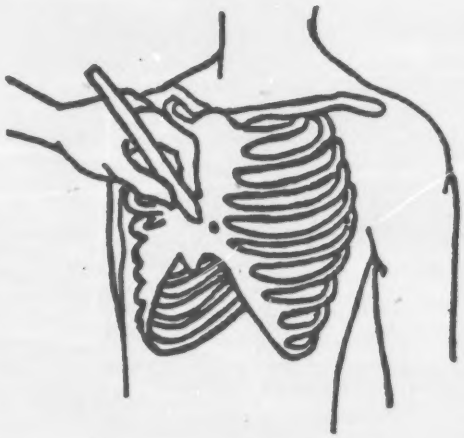
STERNUM - breastbone

JOB STEPS

1. Mark the six spots with a grease pen.

   a. V_1 - Put a dot on the fourth intercostal space to the right of the sternum.

   b. V_2 - Put dot on the fourth intercostal space to the left of the sternum.

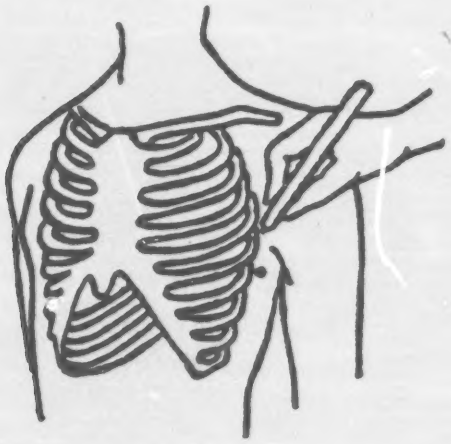


   c. V_3 - Put a dot on the fifth intercostal space in the left side at the mid-clavicular line.

   d. V_4 - Put a dot midway between V_2 and V_4.

   e. V_5 - Put a dot on the left anterior axillary line at the level of V_4.

   f. V_6 - Put a dot on the left mid-axillary line at the level of V_4.



JOB STEPS

Do you know where the chest electrodes must be placed? If not, re-read the section on marking the chest.

If you remember, then mark the chest on the practice acetate attached to this mod. Use grease pencil.

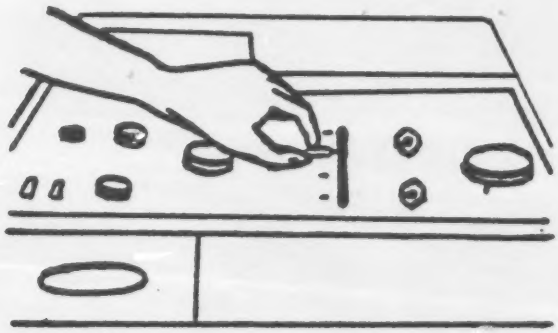
To check your work, place the marked acetate over the diagram of the chest. If necessary, erase the acetate and try again.

STANDARDIZE INSTRUMENT:

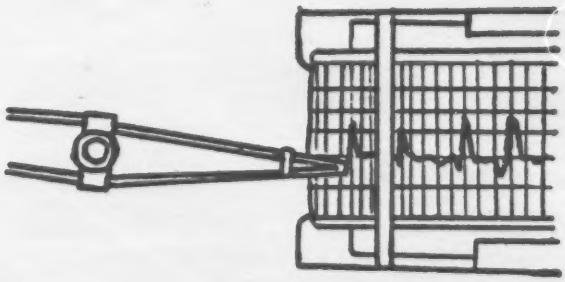
1. Be sure lead selector switch is at ST'D.

2. Test for grounding (if you do not recall, see step 7 under Machine Preparation).

3. Rotate ST'D control clockwise to a point approximately 180 degrees from lowest setting.



4. Adjust stylus position control if necessary so that the recording stylus is in the center of the chart.



WORD GUIDE

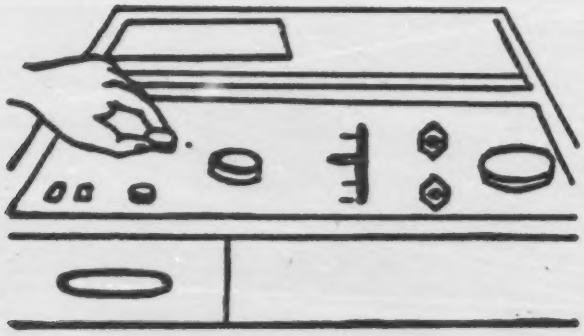
DEFLECTION - amount of change in line.

JOB STEPS

5. Depress ST'D button to observe the deflection of the stylus. The correct deflection is one cm. (two large or ten small squares on the paper).

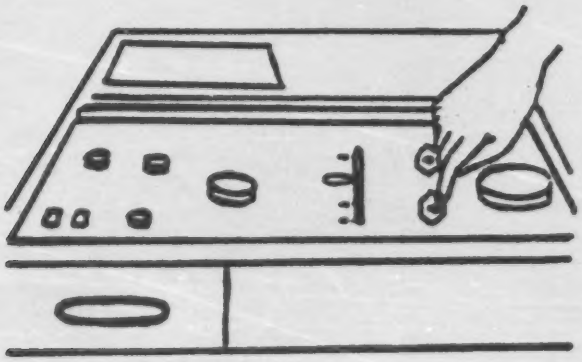
6. Alternately adjust ST'D control and depress ST'D button until standardization is approximately correct.

7. Turn record switch to RUN 25.



8. Adjust Stylus Heat Control until a clean full line is produced. Operate at minimum temperature that will still produce a good line.

9. Repeat step #5 to record a standardization pulse.



10. Turn Record Switch to AMP ON.

JOB STEPS

RECORDING OF THE ELECTROCARDIOGRAM:

1. Check to be sure the patient is relaxed and comfortable and that the electrodes and lead wires are in position.

2. Push "mark" button once to mark lead one.

3. Turn lead selector switch to position for lead 1.

4. Turn record switch to RUN 25.

   a. In certain patients it may be desirable to run at 50 mm. paper speed; this will be determined by the doctor.

5. Run 8-10 inches of paper on lead one.

6. Turn lead selector switch to lead two.

7. Push "mark" button quickly two times.

8. Run 8-10 inches of paper on lead two.

9. Turn lead selector button to lead 3.

10. Push "mark" button quickly three times.

11. Run 8-10 inches of paper on lead three.

12. Turn lead selector switch to lead AVR.

13. Push "mark" button to form a dash or mark "AVR" with a pen.

14. Run 5 inches of paper on AVR.

15. Turn lead selector button to AVL.

16. Push "mark" button to mark two dashes or mark "AVL" with pen.

17. Run 5 inches of paper on AVL.

18. Turn lead selector button AVF.

19. Push "mark" button to form three dashes or mark "AVF" with pen.

20. Run 5 inches of paper on AVF.

21. Turn Record Switch to AMP OFF and return lead control to ST'D.

22. Tell the patient that the test is half over. Be sure to answer any questions the patient might ask.

    You have now completed the six limb leads. This can be completed from lead one through AVF in about 60 seconds. Practice until you can come near to this goal.

JOB STEPS

RECORDING THE CHEST LEADS:

A. WITH BURDICK CHEST ELECTRODE

Remember: if using electrode jelly, wipe off with a wet washcloth after each lead is taken.

1. Fold a Lectro-pad so it is a square.
2. Release the rubber retaining ring on the electrode.
3. Place the Lectro-pad over the metal face of the electrode.
4. Secure the Lectro-pad in place with the rubber ring.
5. Attach the electrode to the chest lead wire of the patient cord by joining the plugs.
6. Slip the plastic anchor plate under the left side of the patient directly below electrode positions 4, 5 and 6. (See figure B, page 5).
7. The free end of the strap should be next to the patient and the concave side of the weight should face toward the patient.
8. Grasp the weight with the right hand and the free end of the strap with the left hand and adjust strap so the weight will rest near the right anterior axillary line.
9. Position the chest electrode for V_1 and place strap over electrode and on patient without stretching strap.

A. WITH VACUTRODE OR SELF RETAINING CHEST ELECTRODE

1. Prepare patient's skin at spot V_1 (4th intercostal space to right of sternum) by rubbing electrode jelly into skin with the same tongue depressor used previously. If skin is very oily, hairy, or hard, massage longer than usual.
2. Attach exploring chest electrode in V_1 position.
3. Turn lead selector switch to "V".
4. Push record button.
5. Standardize.
6. Mark a dash and one dot. CAUTION: Since there is only one V marking on selector switch, be careful to code-mark each of the six chest leads.
7. After approximately two complexes (six inches) turn record button to "off".
8. Return the record switch to AMP OFF. NEVER remove electrode from chest without being certain this has been done.
9. Prepare V_2 spot and proceed exactly as above, marking lead with a dash and two dots.

JOB STEPS

WITH BURDICK CHEST ELECTRODE (Continued)

10. Press electrode against chest to insure good contact.

11. Turn record switch to AMP ON.

12. Standardize by pushing ST'D button momentarily.

13. Turn lead switch to V.

14. Turn record switch to RUN 25.

15. Push mark button to mark a dash and one dot.

16. Run 5 inches of paper on V_1.

17. Turn record switch to AMP OFF.

18. Repeat steps 9 & 10 at V_2 position.

19. Turn record switch to RUN 25.

20. Mark with a dash and two dots.

21. Run five inches of paper remembering to ST'D at least once between heart waves.

22. Turn record switch to AMP OFF.

23. Repeat steps 9 & 10 at V_3 position.

24. Repeat steps 19 through 22 marking with a dash and three dots.

25. Repeat steps 9 & 10 at V_4 position.

WITH VACUTRODE OR SELF RETAINING CHEST ELECTRODE (Continued)

10. Prepare V_3 spot and proceed with first 8 steps, marking lead with a dash and three dots.

11. Prepare V_4 spot and proceed with first 8 steps, marking lead with a dash and four dots.

12. Prepare V_5 spot and proceed with first 8 steps, marking lead with a dash and five dots.

13. Prepare V_6 spot and proceed with first 8 steps, marking with a dash and six dots.

14. See step #31 and 32 under Burdick Chest Electrode. (See next page of module.)

JOB STEPS

Recording the Chest Leads WITH BURDICK CHEST ELECTRODE (continued)

26. Repeat steps 19 through 22 marking with a dash and four dots.
27. Repeat steps 9 & 10 at V_5 position.
28. Repeat steps 19 through 22 marking with a dash and five dots.
29. Repeat steps 9 & 10 at V_6 position.
30. Repeat steps 19 through 22 marking with a dash and six dots.
31. Be sure Record Switch is at AMP OFF and lead selector switch is at ST'D.
32. Turn off main switch unless other ECG's are to be run within a few minutes.

COMPLETION:

1. Detach ECG tracing from machine and record patient, date and any other necessary data on the end of the tracing.
2. Disconnect patient cord from machine by grasping plug (not cord) and pulling straight out.
3. Remove chest electrode and if electrode jelly has been used wash it off with the wet towel.
4. Dry the chest and redrape patient.
5. Remove all limb lead tips and chest lead tips from electrodes.
6. Remove all straps and electrodes and place in warm water to soak.
7. if electrode paste has been used, remove remainder with wet towel and dry the areas with the dry towel.
8. Return patient's watch and jewelry and replace your own watch.
9. Assist patient with clothing if necessary.
10. Check to see if doctor wishes to see patient.
11. Return to patient with any instructions.

JOB STEPS

CARE OF ELECTRODES:

1. As soon as possible, wash the straps and electrodes in clear warm water.

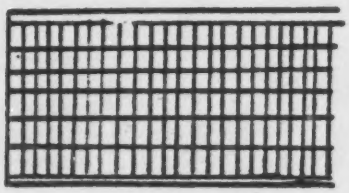
2. Dry the electrodes and straps. The electrodes should be cleaned frequently with kitchen cleanser to prevent corrosion.

3. The lead wire tips should be polished with a fine-grain sandpaper.

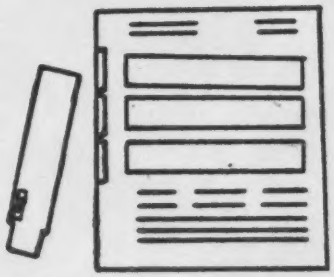
4. Wipe all electrode paste from any of the lead or other wires. The cap should always be kept on the tube of electrode paste and any that shows signs of drying should be discarded.

MOUNTING THE ECG:

As soon as you can, after the patient has left the office and you are back at your desk, get materials together. These will be:

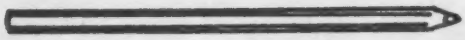


ECG strip

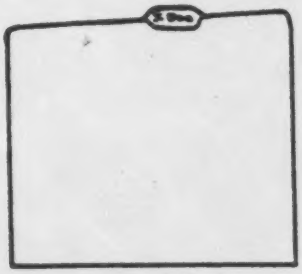


Cardmount and Inserter

Scissors



Ballpoint pen



Patient's chart

Paper clip

JOB STEPS

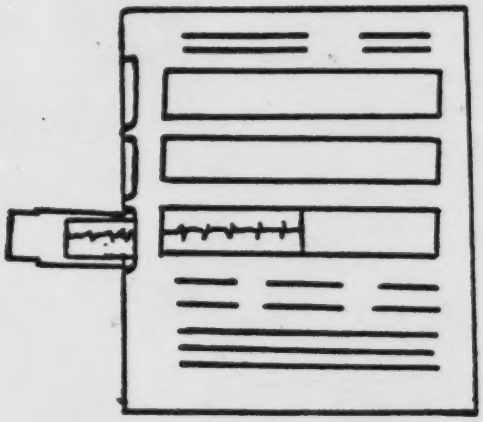
1. Write patient's name, age and date of ECG on cardmount.

2. Check your code marking on each lead and correct or clarify with your pen.

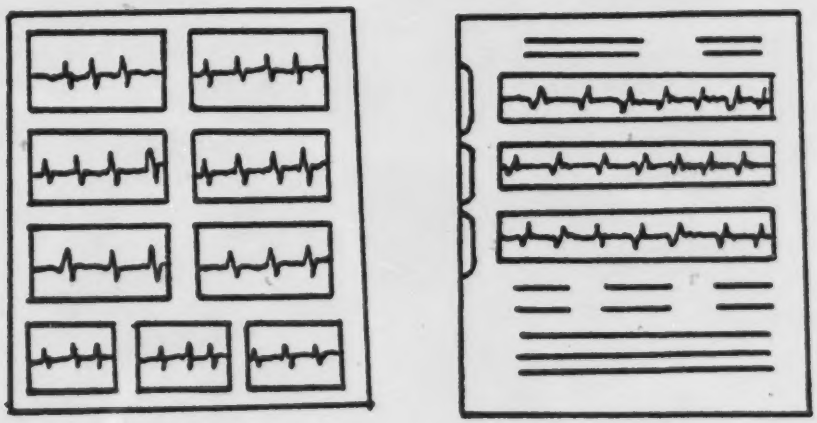
3. You did the ECG in sequence: Standard lead 1, standard lead 2, standard lead 3, aVr, aVl, aVf, V_1, V_2 etc. You will now measure, cut, and mount in the same sequence, and the same way -- one lead at a time. NEVER cut the strip apart and then attempt to find where the pieces are supposed to go.

JOB STEPS

4. Fold under the beginnings of graph strip (where patient's name is, etc.). Measure the amount of the strip you will need with the ECG Inserter. Tear the strip by laying the strip along the edge of the inserter. Fold the right end of the torn strip over the inserter and push it through the opening and under the window. Hold the strip in place as you pull out the inserter.



Carefully repeat procedure of folding end under, measuring, cutting and pushing into window until you have completed all 12 leads.

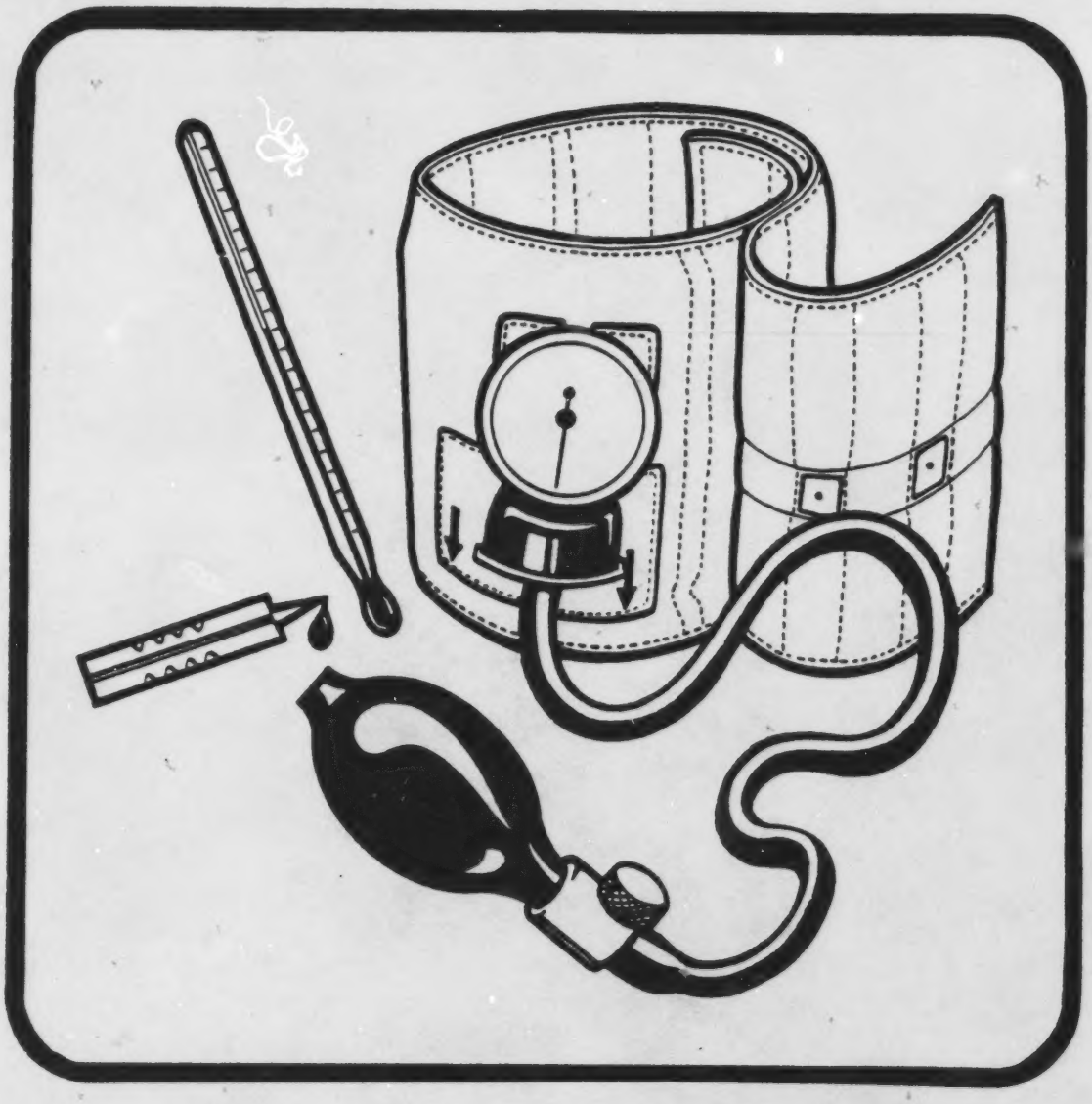


5. Clip patient's chart to mounted ECG and place on the doctor's desk.

JOB STEPS

MAINTENANCE OF THE MACHINE:

Since each company has different instructions for their machinery you should check the operating manual for that particular machine. For classroom machine see pages 24, 25, 26 of Burdick Manual.



medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 018 date: August 1977 level: I

skill title: Testing Vision Using a Snellen Eye Chart

developed & written by: Pat Pittinger

visuals by:

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to test vision using a Snellen Eye Chart.

AND IN ORDER TO DO THIS YOU WILL NEED:

A Snellen Eye Chart
An area 22 feet in length
An eye cover
Pencil and paper
A person acting as a patient
Patient's chart

WE WILL KNOW YOU CAN DO IT WHEN:

1. You can explain the procedure so that the patient understands.
2. You keep the distance between the patient and the chart at 20 feet.
3. You completely cover the patient's eye during the test.
4. You accurately record the results.

WORD GUIDE

MYOPIA - Nearsighted.

HYPEROPIA - Farsighted.

ASTIGMATISM - The light rays are not in focus, they spread in different directions causing image distortion.

O.D. - Refers to right eye.

O.S. - Refers to left eye.

INFORMATION

If you've ever had your eyes checked as a youth, your first experience with the Snellen Eye Chart was probably in school. 20/20 vision means perfect vision. These figures refer to the size of the letters and the distance at which a person reads them.

Some people suffer from myopia or hyperopia, common conditions which require new glasses. Astigmatism is another impairment that can be corrected by proper lenses.

The Snellen Eye Chart is the standard for measuring vision.

INFORMATION

Before you use the Snellen chart, you should:

1. Be sure there is 20 feet between the chart and the patient.
2. Determine whether the patient should sit or stand. This would depend on the chart's height.
3. Do the vision test before the doctor performs the physical exam.

JOB STEPS

1. Collect your materials.

2. Look at the eye chart. Study it closely before you start.

3. Take your patient to the test area.

4. Ask your patient if he/she wears glasses. If patient wears glasses, do the test with glasses on and without glasses.

5. Explain the procedure to your patient. Tell him the following:

   a. To speak clearly and loud enough for you to hear.

   b. You will indicate what line to read.

   c. Not to close covered eye.

   d. You will test right eye first.

6. Give the patient the eye cover and instruct the patient to cover his/her left eye.

7. Ask the patient to read from left to right. Start at the top line on the chart: 20/50.

8. Have the patient read each line on the chart: 20/40 20/30, 20/20.

   NOTE: Do not hurry the patient.

9. Write down the results for each line read. Example:

   20/50 O.D. - OK

   20/40 O.D. - OK

   20/30 O.D. - 1 (missed one letter)

   20/20 O.D. - 2 (missed two letters)

10. When patient finishes, have the patient cover his/her right eye. Repeat job steps 7, 8 and 9.

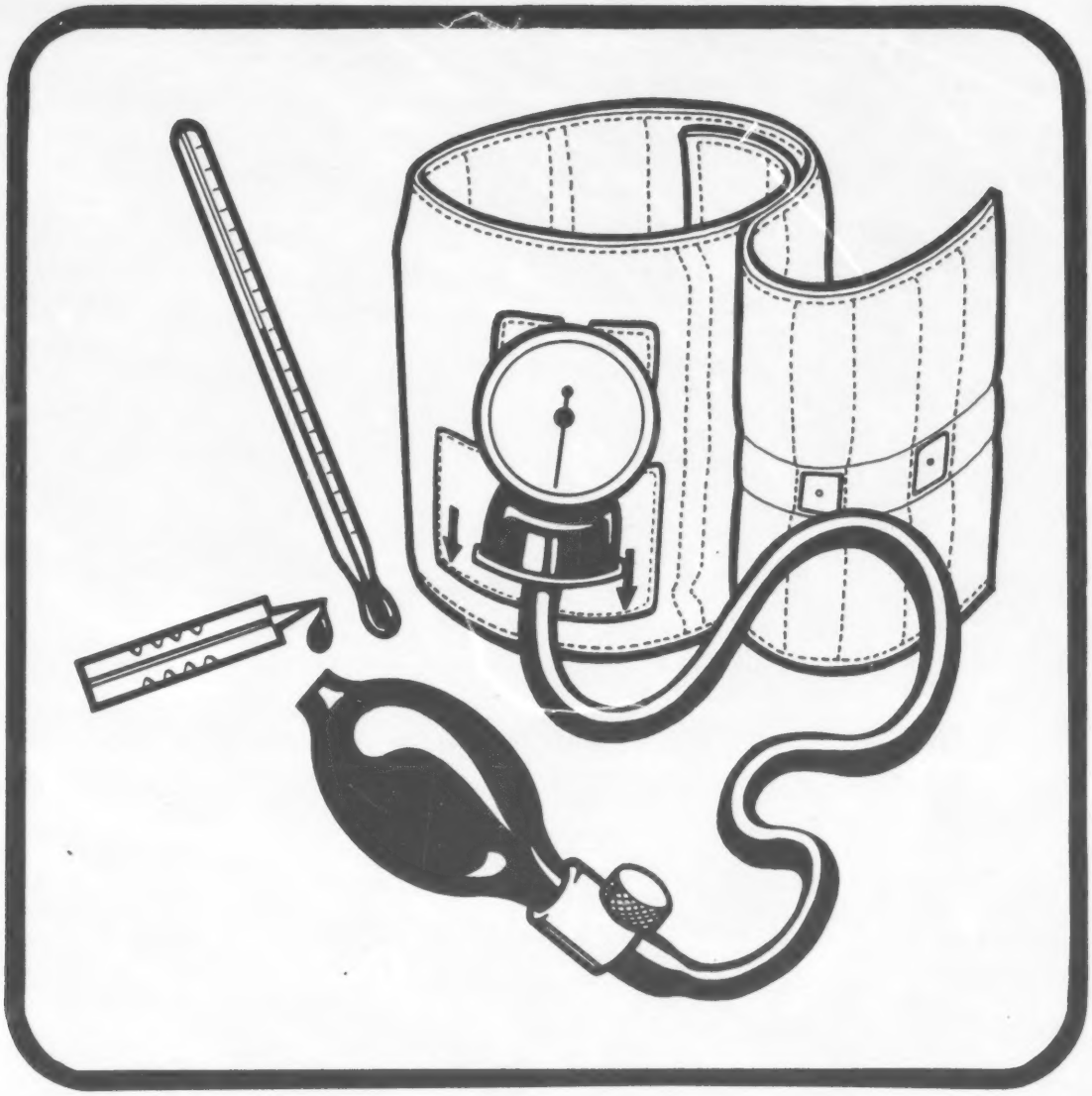
JOB STEPS

11. Repeat test using both eyes if Insurance form and/or physical indicates test using both eyes.

12. On patient's chart, complete test results.

13. Practice what you have learned.

14. Your instructor will check you.



medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 019 date: August 1977 level: I

skill title: Testing Vision Using the Snellen Illiterate "E" Eye Chart

developed & written by: Pat Pittenger

visuals by: Mary Ann Gamel

PERFORMANCE OBJECTIVE

You are going to learn:

How to test vision using the Snellen Illiterate E Chart.

And in order to do this you will need:

Snellen Illiterate E Eye Chart with large cut out E.

An area 22 feet in length.

An eye cover

Pencil and paper

Patient's chart

Person acting as a patient who cannot read.

We will know you can do it when:

1. You instruct the patient so that he/she understands what you want them to do.
2. You keep the distance from the chart to the patient at 20 feet.
3. When testing one eye, you completely cover the other eye.
4. You accurately record the results.

WORD GUIDE

ILLITERATE E EYE CHART - A chart with the letter E in various positions as a substitute for different letters of the alphabet.

INFORMATION

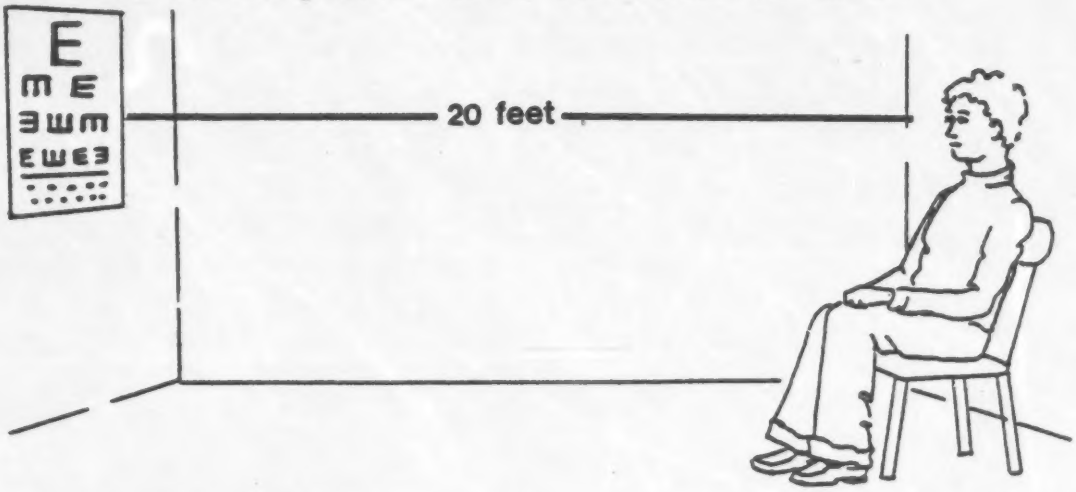
Pre-school children, some retarded individuals, adults who can't read and foreign speaking people are usually tested with the Illiterate E Eye Chart.

Always treat these people with respect and patience. Speak slowly and clearly, without being insulting, so each person can understand what to do.

JOB STEPS

1. Collect your materials and take your patient to the test area.

2. Check to be sure the patient is 20 feet from the chart.

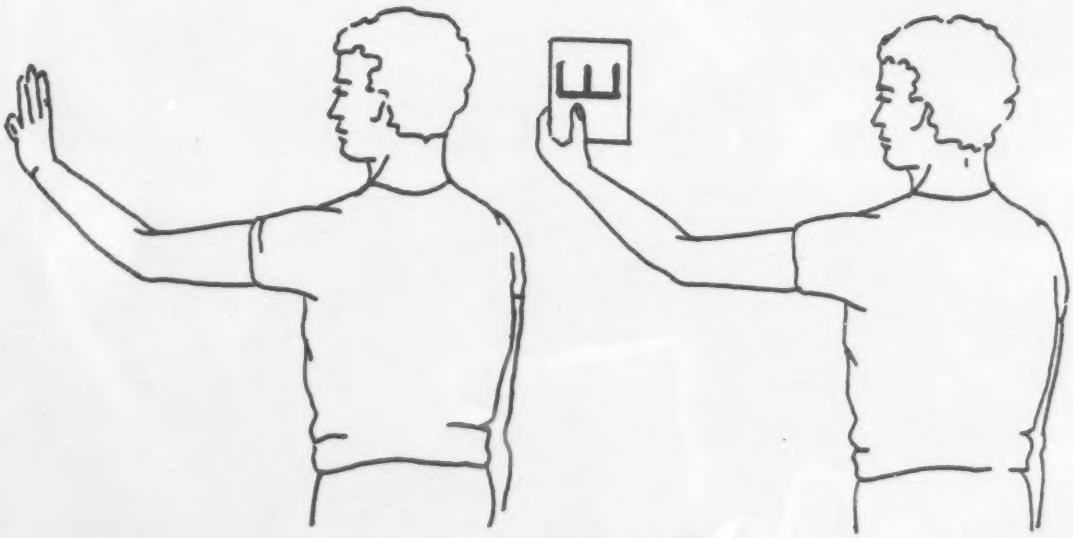


3. Explain the steps of the procedure to the patient. Procedure:

   a. Show the patient the eye chart and cut out E.

   b. Tell the patient that you want them to hold an E in the same position as the E on the chart.

   NOTE: If you do not have a cut out E, have the patient point his/her fingers in the same direction of the "legs" of the E.



JOB STEPS

4. The patient may sit or stand.

5. Give patient the eye cover and the letter E.

6. Tell the patient to cover his/her left eye. Remind patient not to close the eye.

7. Stand at one side of the chart. Point to each E in line 20/200 and in line 20/100.

8. Write down the patient's response to each line.

9. Continue with test, pointing to lines 20/40, 20/30 and 20/20.

10. Write down each line and patient's response. Example:

    20/40 O.D. - OK

    20/30 O.D. - OK

    20/20 O.D. - 1

    20/10 O.D. - 2

11. When patient completes test, have the patient cover his/her right eye and repeat job steps 7, 8, 9, 10.

12. Repeat test if necessary. For example, if the patient wears glasses, do the test with and without glasses.

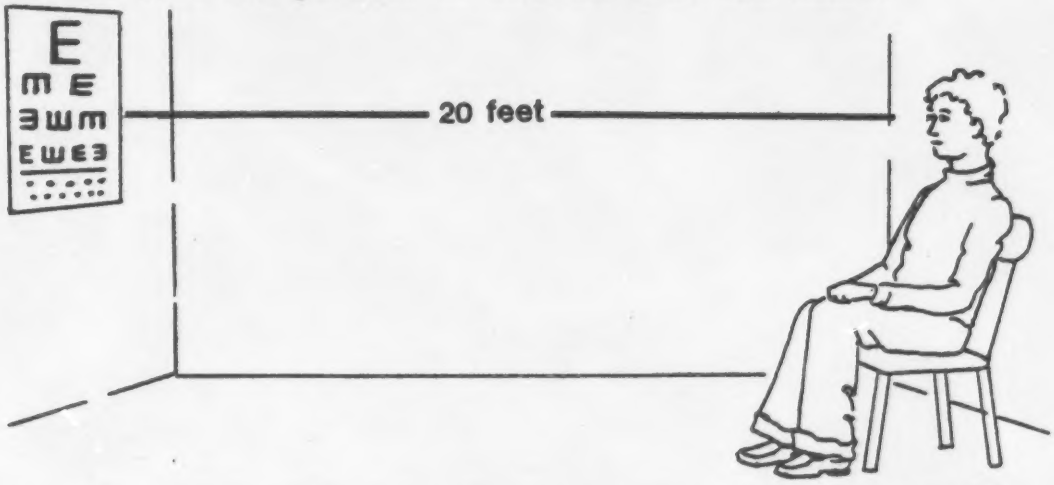
13. On the patient's chart, record results of test.

14. Practice what you have learned until you are sure you can show your instructor without making mistakes.

JOB STEPS

1. Collect your materials and take your patient to the test area.

2. Check to be sure the patient is 20 feet from the chart.

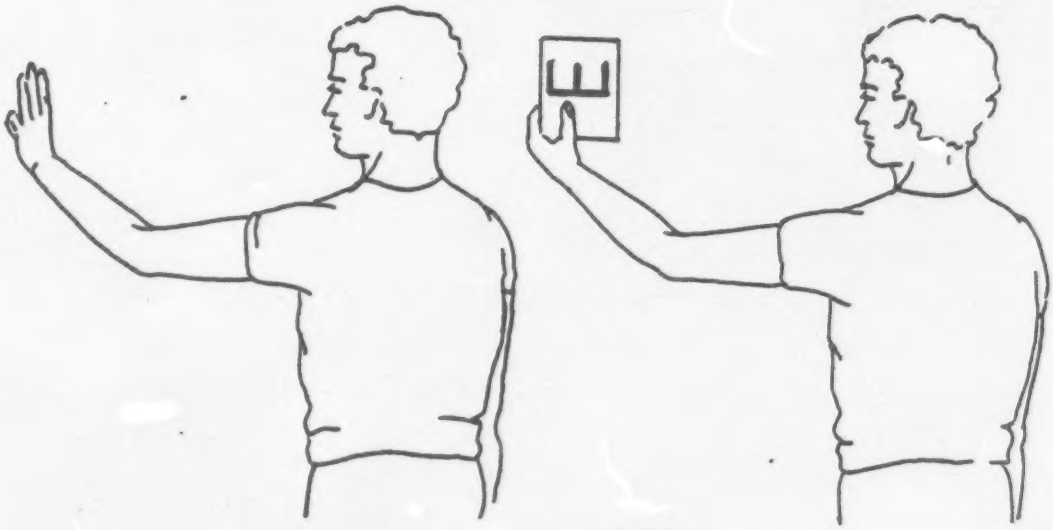


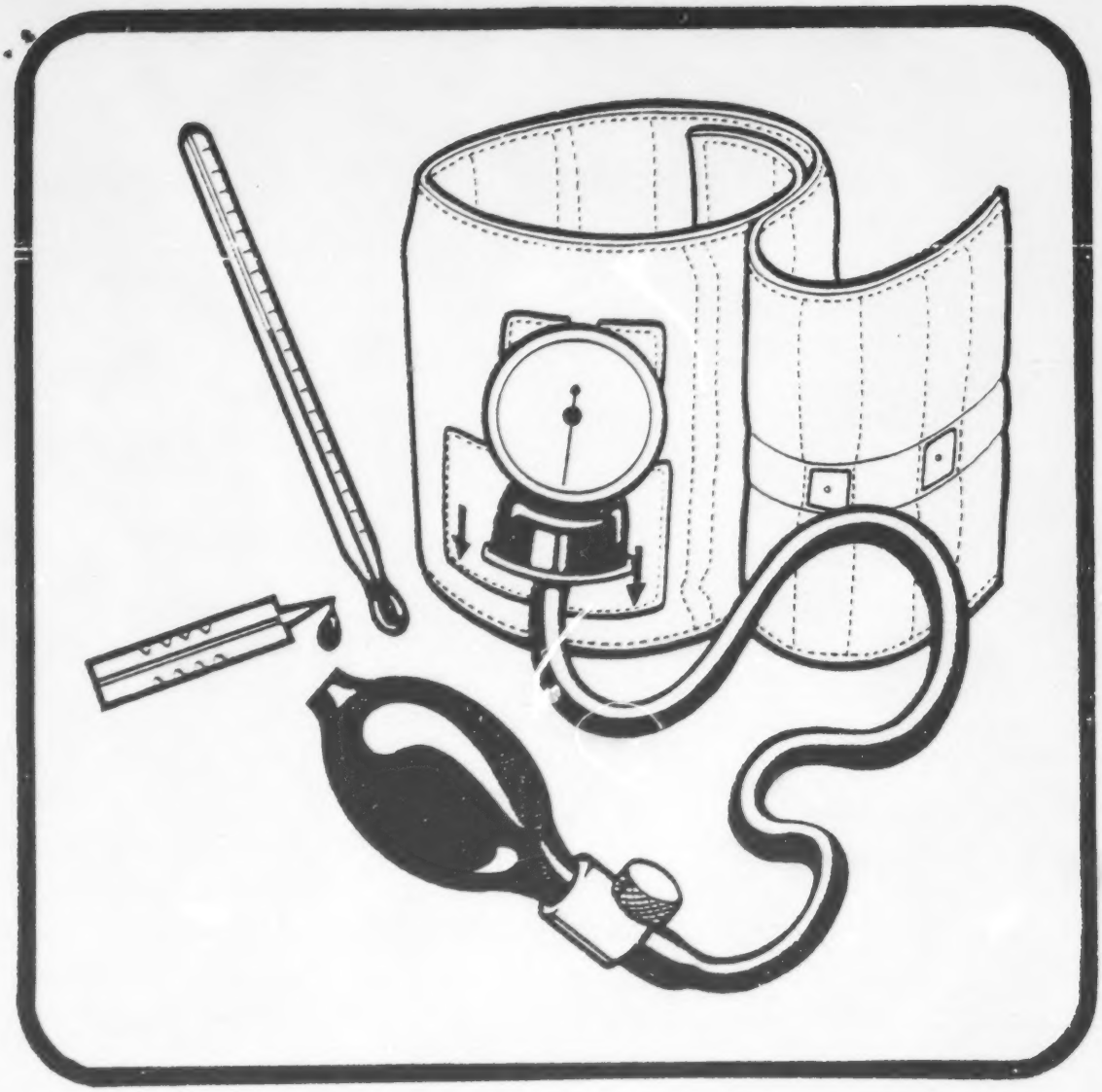
3. Explain the steps of the procedure to the patient. Procedure:

   a. Show the patient the eye chart and cut out E.

   b. Tell the patient that you want them to hold an E in the same position as the E on the chart.

   NOTE: If you do not have a cut out E, have the patient point his/her fingers in the same direction of the "legs" of the E.





medical assistant

unit: DIAGNOSTIC TESTS

capital area career center

module: 4401 07 021 date: May 1978 level: _____

skill title: Doing a Hematocrit Using the Autocrit Centrifuse

developed & written by: Beverly Varney

visuals by: Chuck Knatz

WORD GUIDE

HEMATOCRIT - Lab test to measure volume of red blood cells. Normal for males is 40% to 54%, normal for females is 37% to 47%

CENTRIFUSE - Used to spin blood samples at high speed

SEAL-EASE - Special clay to seal tubes

MICROLANCE - Small tool used to puncture skin for blood samples

PERFORMANCE OBJECTIVE

YOU ARE GOING TO LEARN:

How to do a hematocrit test on blood.

IN ORDER TO DO THIS YOU WILL NEED:

1. A microlance
2. 2 heparinized capillary tubes
3. An autocrit centrifuge
4. 4 cotton balls
5. Acetone
6. A set of instructions
7. Seal-ease tube holder
8. A classmate to act as your patient

WE WILL KNOW YOU CAN DO IT WHEN:

1. You have cleansed the finger correctly.
2. You have punctured the finger well enough to supply a free flow of blood.
3. You have filled the capillary tube to between 1/2 and 3/4 full.
4. You have sealed the capillary tube with seal-ease.
5. You have loaded the centrifuge in a balanced manner.
6. You have loaded the centrifuge with the sealed ends on the capillary tubes facing the outer rim.
7. You have centrifuged the specimens for 3 minutes.
8. You have read and recorded the hematocrit with 100% accuracy.

INFORMATION

Correct operation of the centrifuge is necessary to an accurate hematocrit reading.

Operating precautions for the autocrit centrifuge:

1. Electrical

   Operate only on AC current. This is what the classroom and most medical offices are, entirely. Always use a three prong plug.

2. Loading Balance

   It is important that there are an even number of tubes and that each tube has one directly opposite it, in order to have a balanced tray.

3. The Head Cover

   Always install the head cover before operating the centrifuge. Never open while centrifuge is spinning.

4. Hematocrit Reading

   Always follow the technique in this module for accuracy.

5. Cleanliness

   Keep the centrifuge clean and dust free. Do not spill liquids on the centrifuge.

WORD GUIDE

HEPARINIZED - Treated to slow clotting of blood

CAPILLARY TUBE - Small glass tube used to collect blood specimens

JOB STEPS

1. Assemble all of the equipment listed on page 2. You will need two tubes for blood. This is necessary in order to balance the centrifuge. Be sure you have read the information page.

2. Explain the procedure to your patient, "I'm going to prick your finger for a blood sample".

3. Cleanse a finger tip with a cotton ball wet with acetone.

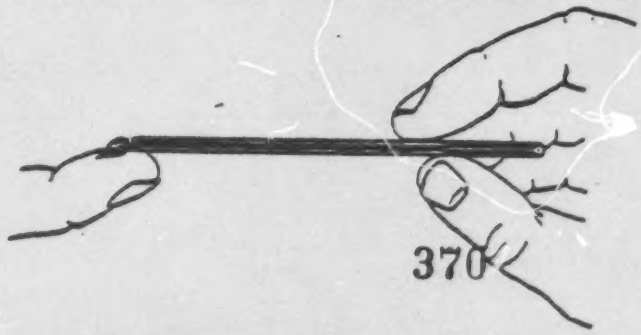
4. Puncture the finger with a microlance.

5. Wipe away the first drop of blood.

6. Pick up a heparinized capillary tube, holding the end with the colored ring between the thumb and forefinger and the end without the colored ring toward the patient's finger.

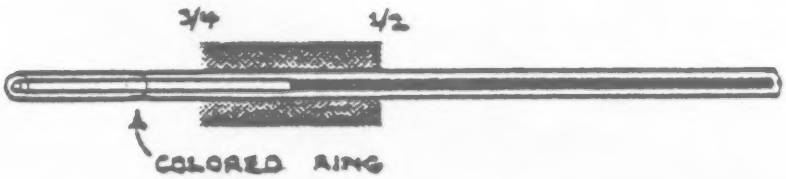
7. Insert the plain end of the capillary tube into the drop of blood.

   DO NOT SQUEEZE THE FINGER. THIS DILUTES THE BLOOD WITH TISSUE FLUID, CAUSING A FALSELY LOW HEMATOCRIT READING.



JOB STEPS

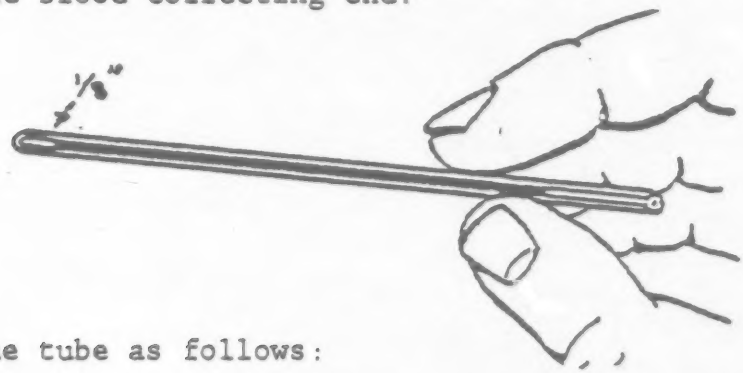
8. Allow the capillary tube to fill with blood to between 1/2 and 3/4 full.



9. Remove the tube from the finger, holding it level so blood cannot flow out of the end.

   NOTE: If you accidentally fill the tube beyond 3/4 full, you can remove the excess blood by gently dabbing the wet tip with a dry cotton ball.

10. Tilt the capillary tube until blood flows about 1/8" back from the blood collecting end.

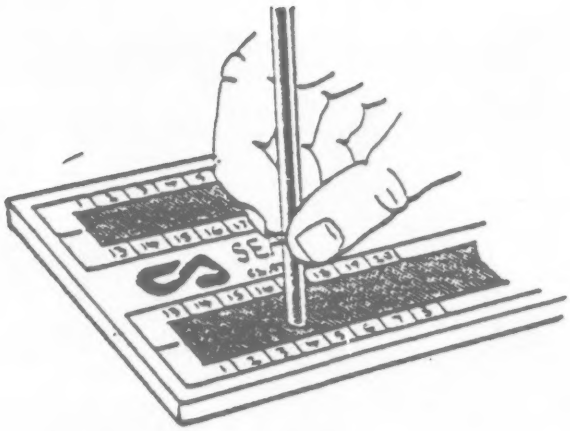


11. Seal the tube as follows:

    a. Quickly turn the tube so the end not used for blood collecting is pointed downward.

    b. Immediately insert the end not used for blood collection into the seal-ease tube holder.

JOB STEPS



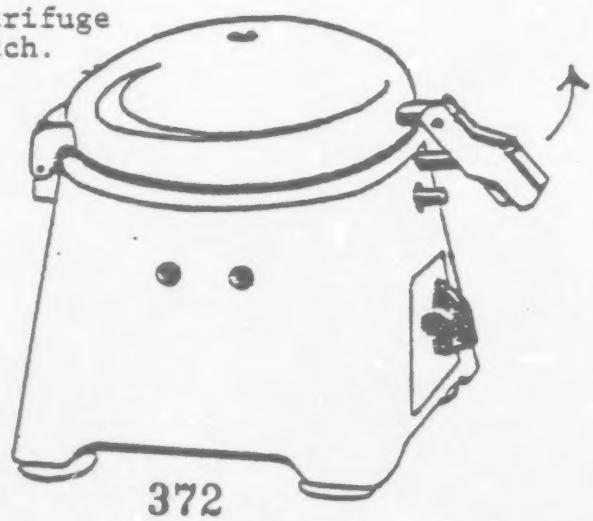
c. Push the tube fully into the clay before the blood flows to the clean end.

NOTE: If blood reaches the end of the tube before the clay is forced in, some blood may be lost and the clay will not seal.

12. Repeat, quickly, steps 5 through 11 with the second capillary tube.

NOTE: The only reason for collecting 2 tubes is that if you are only spinning one tube, the centrifuge head will not be balanced. If you were doing more than one patient this would not be necessary. You would then label the specimens and load them in a balanced manner.

13. Open the lid of the centrifuge by pulling up on the latch.



JOB STEPS

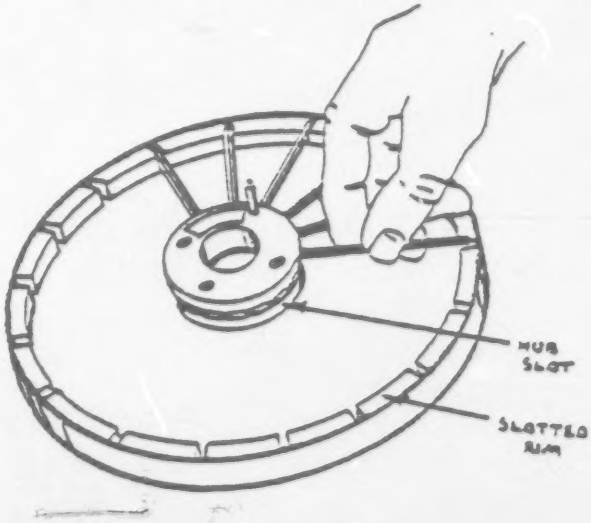
14. Load the head of the centrifuge in the following manner:

a. Remove the head cover of the centrifuge head by using the spanner wrench to loosen the head cover.

b. Place the head cover in the open lid of the centrifuge.

c. Insert a filled capillary tube into the carrying tray by inserting the unsealed end into a hub slot.

d. Drop the sealed end into the corresponding rim slot.

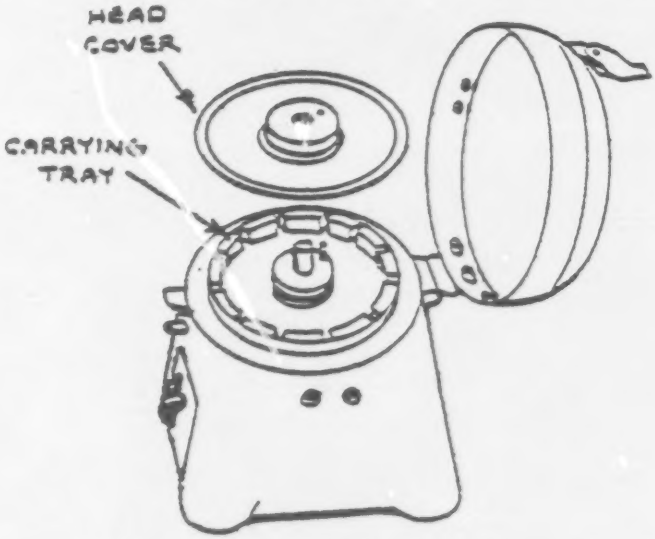


e. Repeat 14 c and 14 d with the second capillary tube, being certain to place it in the slot exactly opposite the first tube.

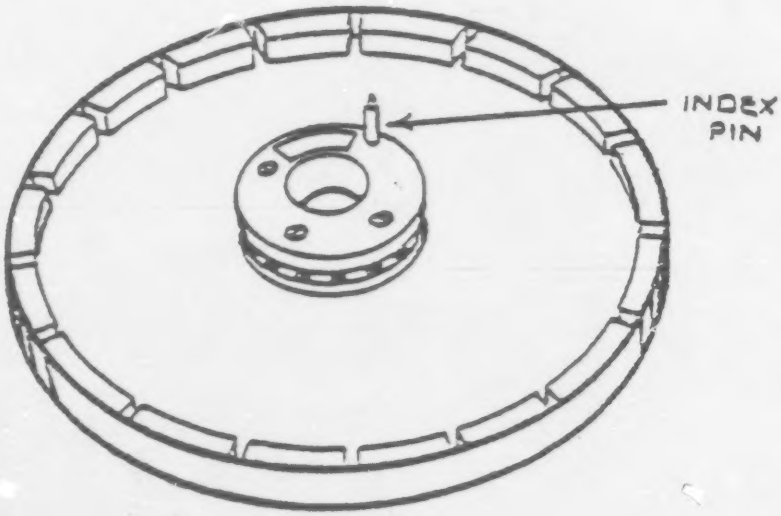
JOB STEPS

15. Spin the machine by hand to be sure the tubes will stay in place.

16. Pick the head cover up from the centrifuge lid and place it over the carrying tray. The threaded shaft of the adapter fits into the threaded hole in the center of the head cover.



17. Make sure the index pin on the tray fits into one end of the index holes on the underside of the head cover.

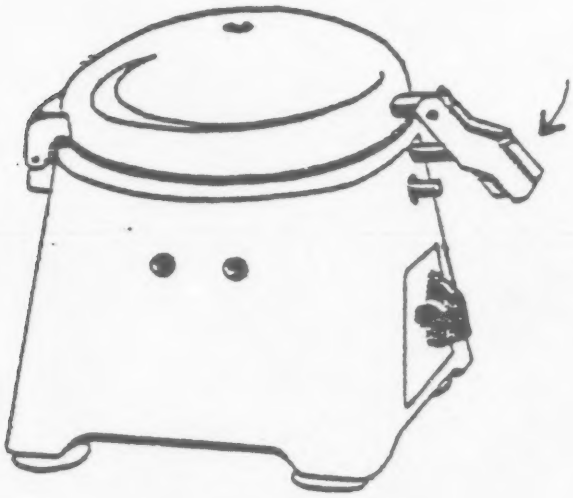


JOB STEPS

18. Tighten the head cover knob to turning it clockwise. DO NOT USE THE SPANNER WRENCH TO TIGHTEN THE KNOB.

19. Close the centrifuge cover.

20. Lock the latch by pushing it in.



21. Turn the timer knob clockwise past the 5 minute marker and then turn back to 3 minutes. The electrical brake will automatically stop the centrifuge within 90 seconds after the timer shuts off.

JOB STEPS

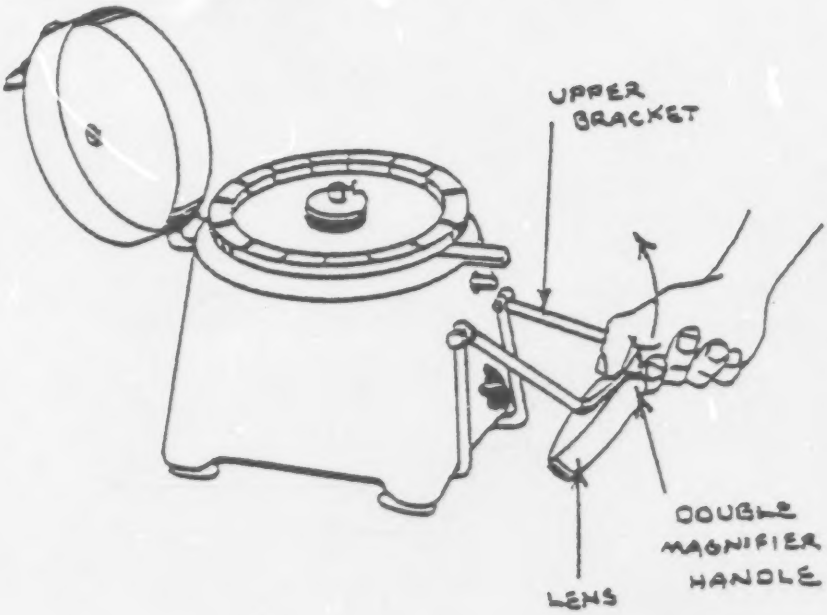
22. When the centrifuge has stopped spinning, unlock the latch, open the lid and loosen the head cover knob.

    NOTE: If the knob is too tight, use the spanner wrench to loosen it.

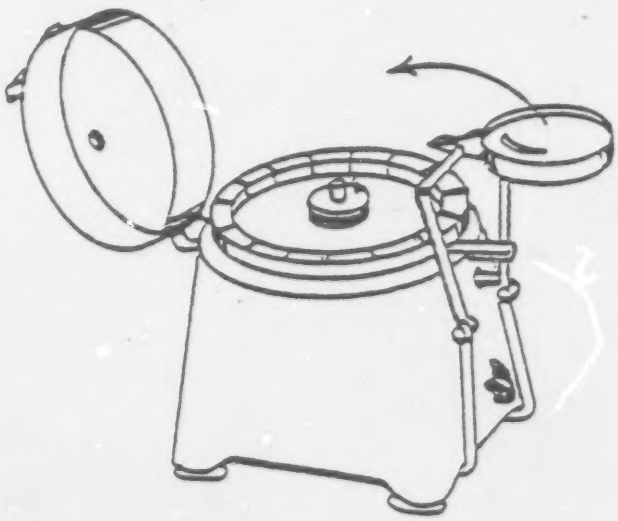
JOB STEPS

23. Read the hematocrit:

a. Grasp the magnifier handle and pull it out from under the centrifuge.

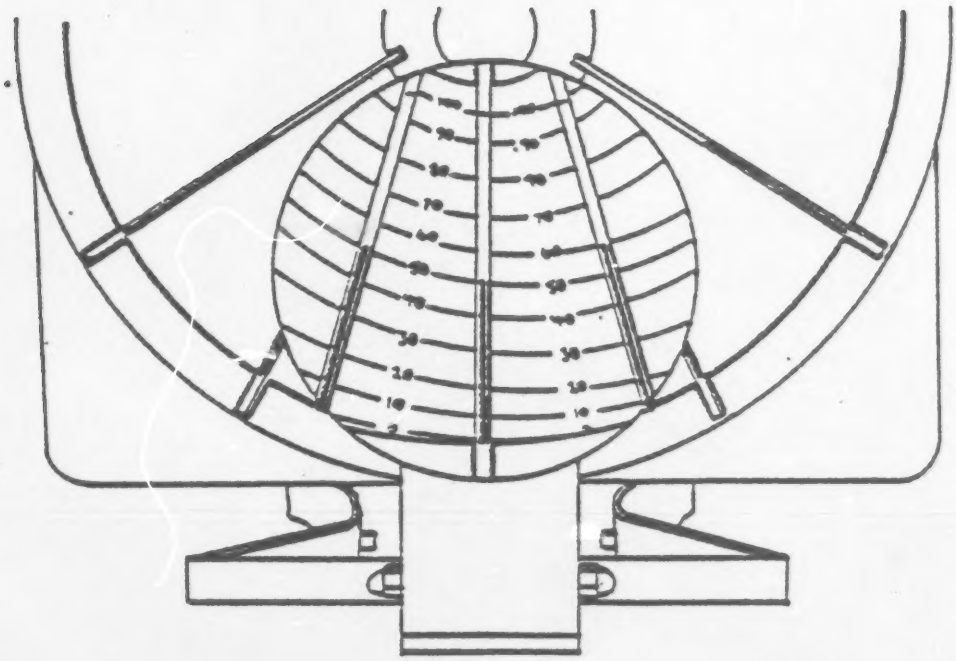


b. Push the magnifier into the upright position and swing over the specimens and the reading scale.



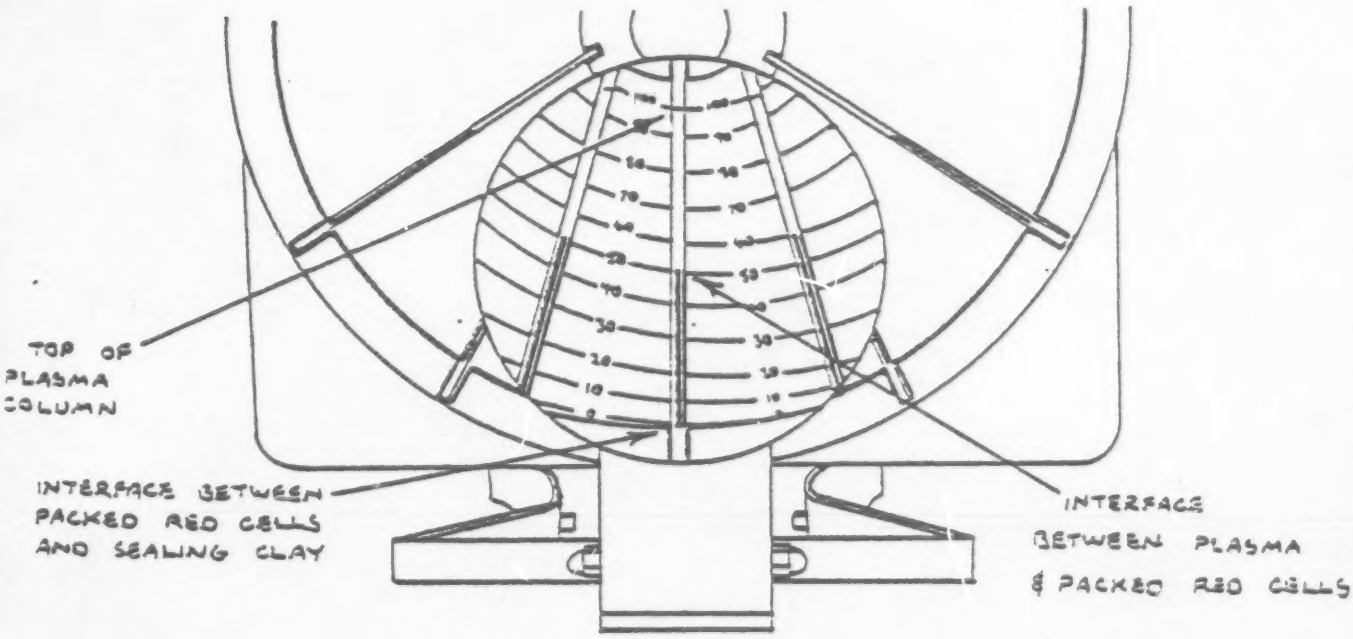
JOB STEPS

c. Rotate the head so one of the specimens is under the magnifier.

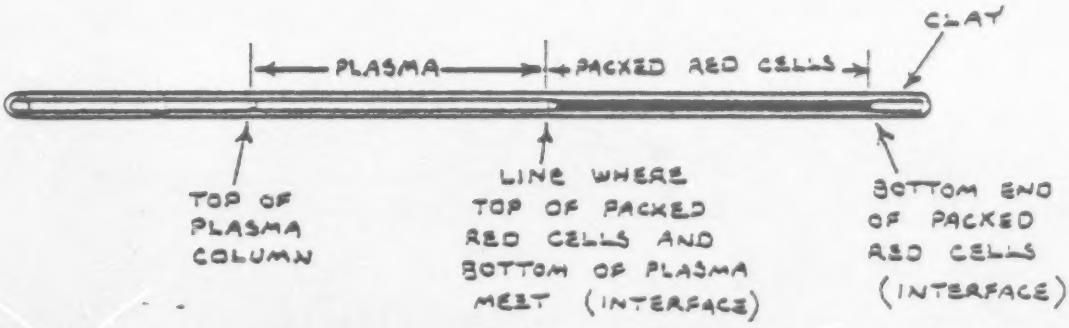


JOB STEPS

d. Slide the capillary tube toward the center of the scale until the bottom end of the packed red cells is at zero on the outside edge of the scale.

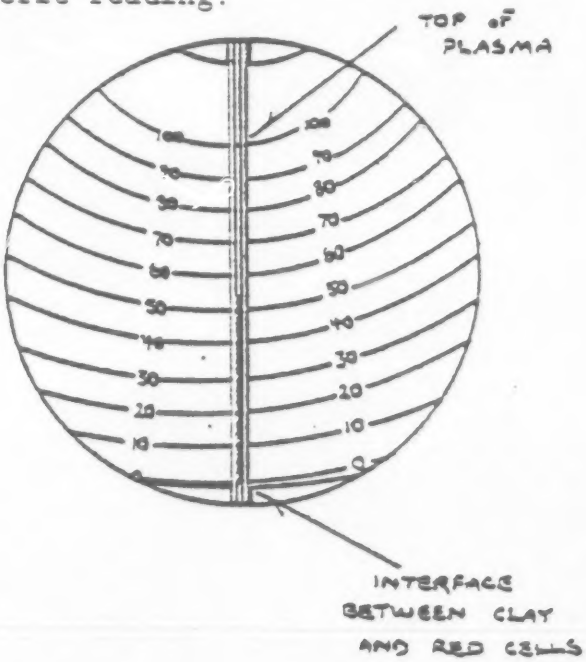


e. Hold the aluminum rim of the carrying tray with one hand and rotate the scale plate until the top of the plasma column is at the 100 line on the spiral scale.



JOB STEPS

f Read the number on the line where the top of the packed red cells and the bottom of the plasma meet. This is the hematicrit reading.

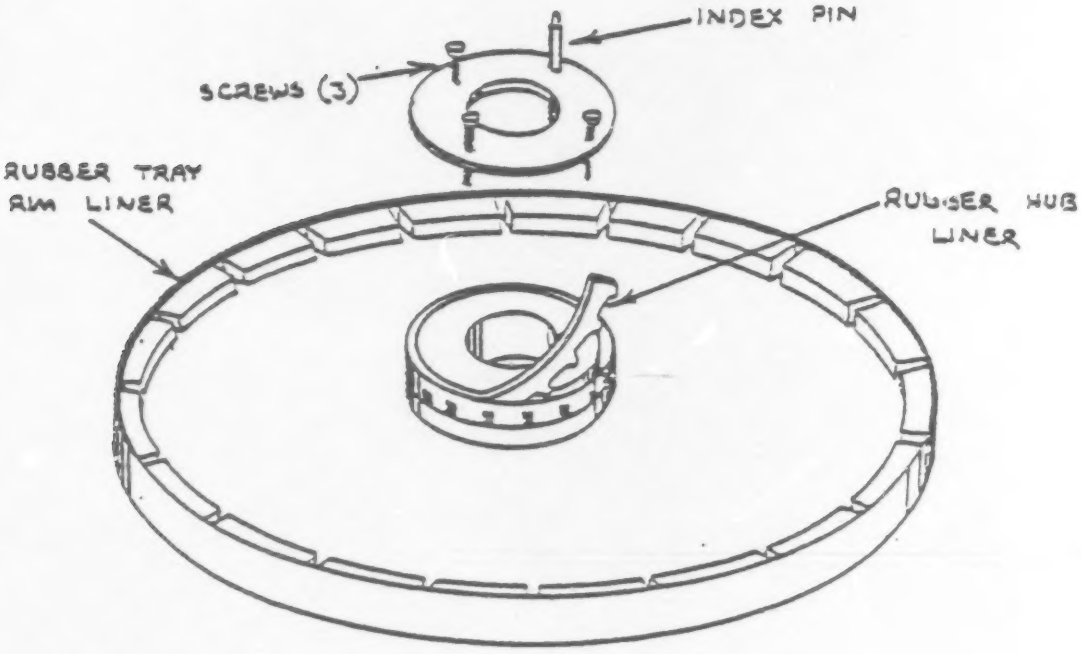


g. Record the reading. Example: Hct - 52

24. Put the tubes into the container for used sharp equipments.

JOB STEPS

25. Maintenance of the Autocrit Centrifuge



A. After much usage of the centrifuge, the rubber tray rim liner will have dents in it made by the ends of the tubes. If this happens you should move it a few millimeters from its original position. When the entire surface becomes indented you should remove it from the groove and turn it over. When both surfaces have become covered with dents it will need to be replaced.

B. The rubber hub liner, with flaps which hold the tubes in place, may become worn. When this happens you should replace it with a new one. Your operating manual will give you instructions for doing this. Since not all hematocrit machines are the same, always follow the instructions for your machine. Re-read information page concerning care of equipment.